

EXHIBIT 5

U.S. Patent No. 7,386,455

Samsung Accused Products

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

<p>1[preamble]. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:</p>	<p>To the extent that the preamble is a limitation, Samsung is infringing, and has infringed, by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device comprising the steps of claim 1 listed thereafter.</p> <p>The Samsung products that act through the Android operating system in conjunction with Google Assistant and/or Samsung Bixby, as implemented on Samsung devices, hereinafter (the “Samsung Accused Products”), meet this limitation when they are used for their intended and marketed purpose by Samsung , Google and/or third parties.¹</p> <p>For example, the following exemplary documents provide support to demonstrate the Samsung Accused Products are systems for controlling at least one remote system by uttering speech commands into a voice enabled device.</p> <p>Andrew Nusca, <i>How voice recognition will change the world</i> (Nov. 4, 2011), available at https://www.zdnet.com/article/how-voice-recognition-will-change-the-world/.</p> <p>Gene Munster, Will Thompson, <i>Annual Digital Assistant IQ Test – Siri, Google Assistant, Alexa, Cortana</i> (Jul. 25, 2018), available at https://loupventures.com/annual-digital-assistant-iq-test-siri-google-assistant-alexa-cortana/.</p> <p>Extending the assistant (Jan. 29, 2019), available at https://developers.google.com/actions/extending-the-assistant.</p> <p>Voice Browsing (Jan. 29, 2019), available at https://www.w3.org/standards/webofdevices/voice.</p> <p>How Search organizes information (Jan. 29, 2019), available at https://www.google.com/search/howsearchworks/crawling-indexing/.</p> <p>Winston Chen, Speaking to the Web with the Web Speech API (Aug. 17, 2017), available at https://medium.com/samsung-internet-dev/speaking-to-the-web-with-the-web-speech-api-980d12d34244.</p> <p>Dieter Bohn, Here’s what we know Samsung’s Bixby assistant can do on the Galaxy S8 (Mar. 29, 2017), available at https://www.theverge.com/2017/3/29/15097744/samsung-bixby-galaxy-s8-assistant-vs-siri-alexa-android.</p>
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¹ On information and belief, all Samsung products that act through the Android operating system in conjunction with Google Assistant and/or Samsung Bixby infringe the asserted claims of the ’455 patent. These products include at least, but are not limited to, Samsung Galaxy S22 Ultra, Galaxy S22+/S22, Galaxy S21, Galaxy S10, Galaxy Z Fold3, Galaxy Z Flip3, Galaxy Tab S, Galaxy Tab A, Galaxy Watch4 and the Samsung SmartThings devices (collectively, the “Samsung Accused Products”). See <https://www.samsung.com/us/mobile/phones/all-phones/>; <https://www.samsung.com/us/mobile/tablets/all-tablets/>; <https://www.samsung.com/us/watches/galaxy-watch4/buy/>; <https://www.samsung.com/us/smartthings/>. On information and belief, Samsung has released different versions of the Samsung Accused Products and each of these products infringes through the use of Google Assistant at least since Google Assistant’s release in 2016 and/or Samsung Bixby at least since Bixby’s release in 2017. See <https://www.techrepublic.com/article/google-assistant-the-smart-persons-guide/>; <https://9to5google.com/2017/05/01/bixby-voice-assistant-launch-date/>. Discovery has not begun and Parus’s investigation into the accused products is ongoing. Parus reserves the right to update these contentions if more accused products are discovered.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

On information and belief, there is no evidence to indicate that the relevant operation of Google Assistant and/or Bixby on the Samsung Accused Products is different from described herein. Rather, public information indicates that Bixby “essentially works the same way” as the Google Assistant.

How Bixby works

Bixby should also be able to understand natural language: this means that you don't need to use set phrases, but you can give incomplete information and Bixby can interpret and take action. Natural language recognition has been key to the rise of Alexa, for example, and is now a key element of modern AI.

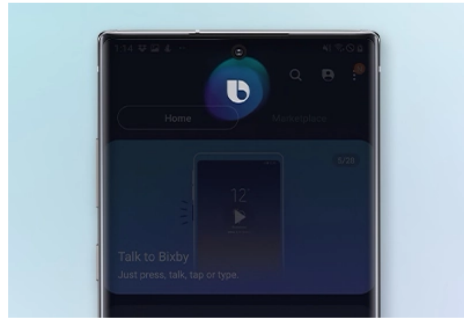
The service essentially works in the same way as other AI solutions like Google Assistant or Amazon Alexa in that it listens to your voice, interprets the information, and returns the resulting action.

available at <https://www.pocket-lint.com/phones/news/samsung/140128-what-is-bixby-samsungs-assistant-explained-and-how-to-use-it>.

1[preamble]. "1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:"

Change the AI assistant on your Galaxy phone

Last Update date : Oct 03, 2020



Bixby and Google Assistant are both handy AI programs that you can use on your phone, but you're not limited to those two - you can even set Samsung Internet as a phone assistant. Each assistant is awesome in its own way, but Bixby is made specifically for Galaxy phones and has its own special features. However, you can change the default assistant on your phone if you'd like.

available at <https://www.samsung.com/ca/support/mobile-devices/galaxy-phone-change-the-ai-assistant/>

What to know about Bixby

While Bixby is similar to Google Assistant (which is also available on Samsung devices), Bixby is found exclusively on Samsung devices — it's unavailable on any other Android brand. Samsung has included it on every new Samsung device, starting with the Galaxy S8 in 2017. In addition to phones and tablets, it's built into the Samsung Galaxy Watch and is the voice assistant in the Samsung Galaxy Home, a smart speaker that Samsung announced in 2018 but has still not been released.

available at <https://www.businessinsider.com/bixby>.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

Bixby is an [artificial intelligence](#) (AI) system developed by Samsung Electronics to make [device](#) interaction easier and to avoid complexity of fully featured devices. Bixby is Samsung’s very own virtual assistant and the electronics giant’s new effort to offer an intelligent agent to compete with Google Assistant, Apple’s Siri, and Amazon’s Alexa. Like other voice-based virtual assistants out there, Bixby uses neural nets and [deep learning](#) to interpret what it should do based on what a person says or asks. It uses natural language processing to understand how we talk and what we mean. It basically means anyone with a Samsung smartphone or a Samsung TV will be able to use Bixby for a [wide](#) variety of tasks, queries, and capabilities, just like Google Assistant. Bixby is a major overhaul of the S Voice, the bundled voice command application that comes built-in with the Samsung Galaxy S5 and other devices.

– While both Google Assistant and Bixby have similar smart assistant features, Google Assistant is uniquely integrated with the Google Home ecosystem and is available for Android and iOS devices (limited functionality on iOS), whereas Bixby is specific to Samsung devices and apps. Bixby is tied to the Samsung’s SmartThings hub and has

While both Google Assistant and Bixby are pretty much the same, when it comes to basic functionalities like executing voice commands to perform a wide range of tasks, Google Assistant is tied to the Google Home ecosystem, whereas Bixby is limited to the Samsung universe. Google Assistant also uses other services from the Alphabet/Google Company, as available at <http://www.differencebetween.net/technology/difference-between-google-assistant-and-bixby/>.

If you are using a Samsung device for the first time, you might be surprised to learn that Samsung has its own voice assistant similar to Apple’s Siri, Amazon’s Alexa, and [Google Assistant](#). It’s called Bixby and is built into many Samsung devices. It works like any of those other voice assistants, so you can use it to answer questions, perform common commands, and automate tasks that you frequently perform with your phone.

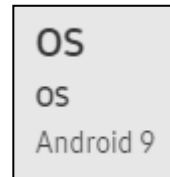
available at <https://www.businessinsider.com/bixby>.

1[preamble]. "1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:"

First of all, both Google Assistant and Bixby supports voice and keyboard input to ask queries and questions. With Google Assistant, you can send a message, open an app, check weather, and even send a WhatsApp message.

available at <https://techwiser.com/bixby-vs-google-assistant-comparison>.

The Samsung Accused Products are systems for retrieving information from pre-selected web sites by uttering speech commands into a voice enabled device. For example, the Galaxy S10 comes with Google Assistant and/or Bixby preinstalled. On information and belief, the Samsung Accused Products come with Google Assistant and/or Bixby preinstalled.



See, e.g., <https://www.samsung.com/us/mobile/phones/galaxy-s/galaxy-s10-128gb-unlocked-sm-g973uzbaxaa/>

What you need

To use the Google Assistant, you'll need a device with:

- Android 5.0+ with at least 1.0GB of memory or
- Android 6.0+ with at least 1.5GB of memory
- Google app 6.13 or higher
- Google Play services
- 720p or higher screen resolution
- Device's language set to a language listed above

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See, e.g., <https://support.google.com/pixelphone/answer/7172657?hl=en>



Meet Bixby

Bixby learns what you like to do and works with your favorite apps and services to help you get more done. See Bixby on page 30.

See, e.g., Samsung Galaxy S10 User Manual at 1, available at

http://downloadcenter.samsung.com/content/UM/201909/20190914004452936/GEN_SM-G970U1_SM-G973U1_SM-G975U1_EN_UM_P_9.0_070219_FINAL_AC.pdf

Bixby

Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit samsung.com/us/support/owners/app/Bixby for more information.



TIP You can customize how the Bixby key functions. From Settings, tap **Advanced features > Bixby key**.

The Bixby Home page displays customized content based on your interactions. Bixby learns from your usage patterns and will suggest content you may like.

- From a Home screen, swipe right or press the **Bixby** key.

Bixby Voice

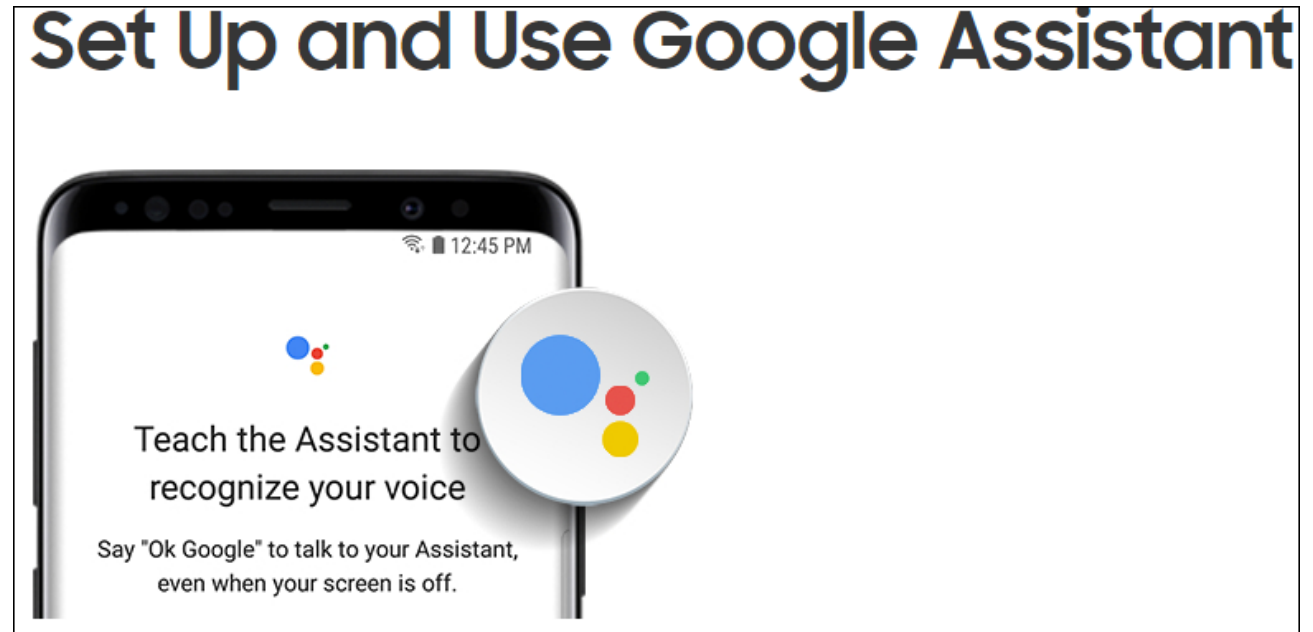
Bixby Voice allows you to use voice commands for opening apps, changing settings, entering text, and more.

1. Press and hold the **Bixby** key.
2. Say a command.
3. Release the **Bixby** key when you are finished speaking.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

See, e.g., id. at 30.

Further, Samsung gives instructions for setting up and using the Google Assistant with the Samsung Accused Products. For example, Samsung provides instructions for setting up and using the Google Assistant with its Galaxy line of products. On information and belief, Samsung provides similar instructions for each Samsung Accused Product that implements Google Assistant.



See, e.g., <https://www.samsung.com/us/support/answer/ANS00077672/>.

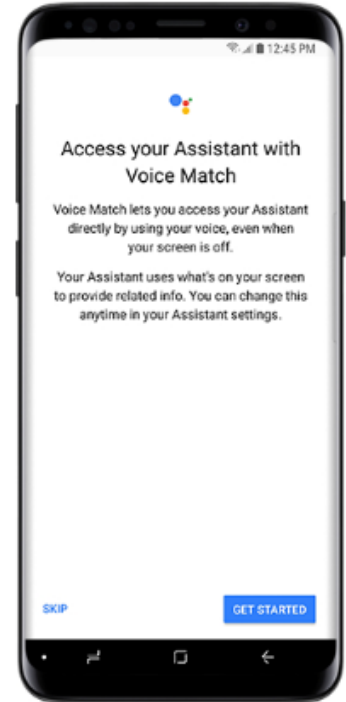
Just say the words and your command will be granted - by Google Assistant. This AI feature will lend you a helping hand with practically everything on your phone. Have it set alarms for work or tell you the latest breaking news. With Google Assistant, the power is yours.

See, e.g., id.

1[preamble]. "1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:"

Set Up Google Assistant

Don't be shy; Google Assistant is very friendly and easy to use. To open Google Assistant, touch and hold the **Home** button. Touch **GET STARTED**. Say "OK Google" three times to teach Google Assistant to recognize your voice and complete the setup.



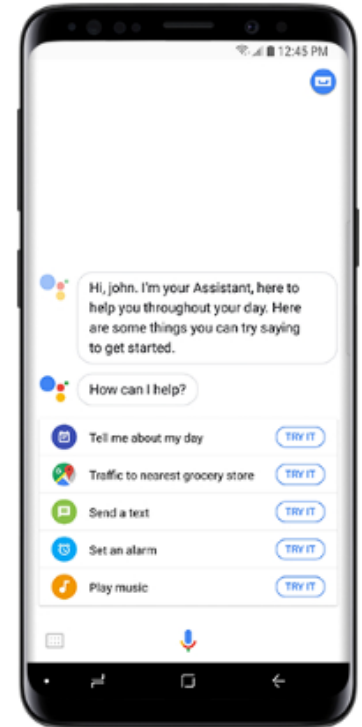
Use Google Assistant

See, e.g., id.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

Use Google Assistant

Now that the ice has been broken, Google Assistant will help you whenever you want. To open Google Assistant, touch and hold **Home**. Touch the **Speak** icon to interact with Google Assistant, and then ask, "What can you do?" Swipe to the left to see a list of things Google Assistant can help with, like adjusting your Smart Home features.



See, e.g., id.

Samsung also provides instructions for setting up and using Samsung Bixby with the Samsung Accused Products. For example, Samsung provides instructions for setting up and using Samsung Bixby with its Galaxy line of smart phones. On information and belief, Samsung provides similar instructions for each Samsung Accused Product that implements Samsung Bixby.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

Set up Bixby for the first time



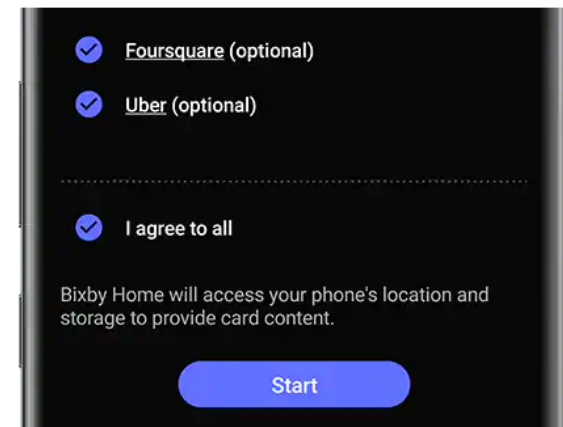
Bixby is a digital personal assistant on your Galaxy phone that automatically adjusts to your lifestyle and needs. Over time, Bixby will learn your habits and interests, so it can better assist you. But first, you'll need to set up Bixby for the first time.

See, e.g., <https://www.samsung.com/us/support/answer/ANS00076739/>.

Set up on One UI

To access Bixby Home, swipe right from the Home screen, and then tap **Agree**. If needed, sign into your Samsung account. Next, review the information and then tap **I agree to all**. Then, tap **Start**.

Now you can access Bixby Home by swiping right from the Home screen.



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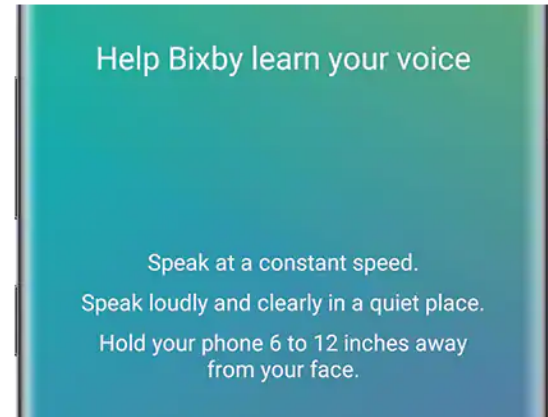
See, e.g., <https://www.samsung.com/us/support/answer/ANS00076739/>.

Set up on Oreo OS

To access Bixby Home, swipe right from the Home screen. If needed, sign into your Samsung account. Tap **NEXT** and then select your desired language. Tap **CONFIRM**, tap **I have read and agree to all**, and then tap **NEXT**.

Follow the on-screen instructions, and then tap **NEXT**. From there, set up Bixby Voice Recognition, or tap **SKIP** to set it up later. Tap **START** to have a conversation with Bixby.

Now you can access Bixby Home by swiping right from the Home screen.



See, e.g., <https://www.samsung.com/us/support/answer/ANS00076739/>.

Further, the Samsung Accused Products allow one to control smart home devices remotely with Google Assistant.

1[preamble]. "1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:"

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

With a little help from Google.

Ask Google to control smart devices in your home. No
matter where you are, get things done – whenever
you want.

See, e.g., <https://assistant.google.com/smart-home/>.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

Discover smart home devices.

Find smart home devices from thousands of brands. With Google, devices can work together to save time, lower energy bills, and help keep you safer.

Lighting and Plugs

Climate and Energy

Security and Awareness

Entertainment

Appliances and More

See, e.g., <https://assistant.google.com/smart-home/>.

Explore smart lighting and plugs.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

1[preamble]. “1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:”

Explore smart climate and energy devices.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/climate-energy/>.

Explore smart entertainment devices.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/entertainment/>.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet the preamble. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in the preamble or

1[preamble]. "1. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said method comprising the steps of:"

	remainder of the claim that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet the preamble under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the preamble is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the preamble.
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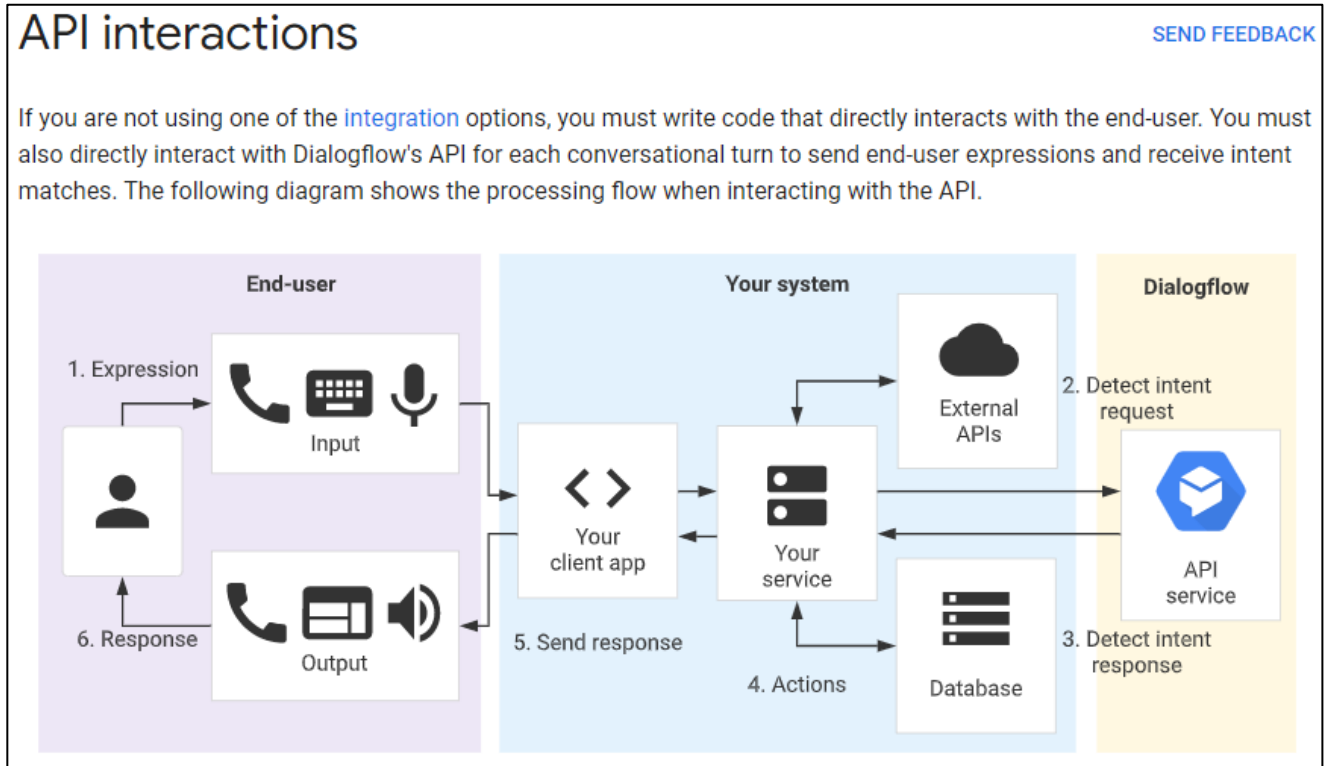
1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

1[a]. providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;

Samsung is infringing, and has infringed, element 1[a] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine.

The Samsung Accused Products include/practice providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine.

For example, the Samsung Accused Products include a computer operatively connected to the internet. The Samsung Accused Products are connected to the internet and the Google Cloud, which the Samsung Accused Products use to process requests. On information and belief the claimed computer is in the cloud.

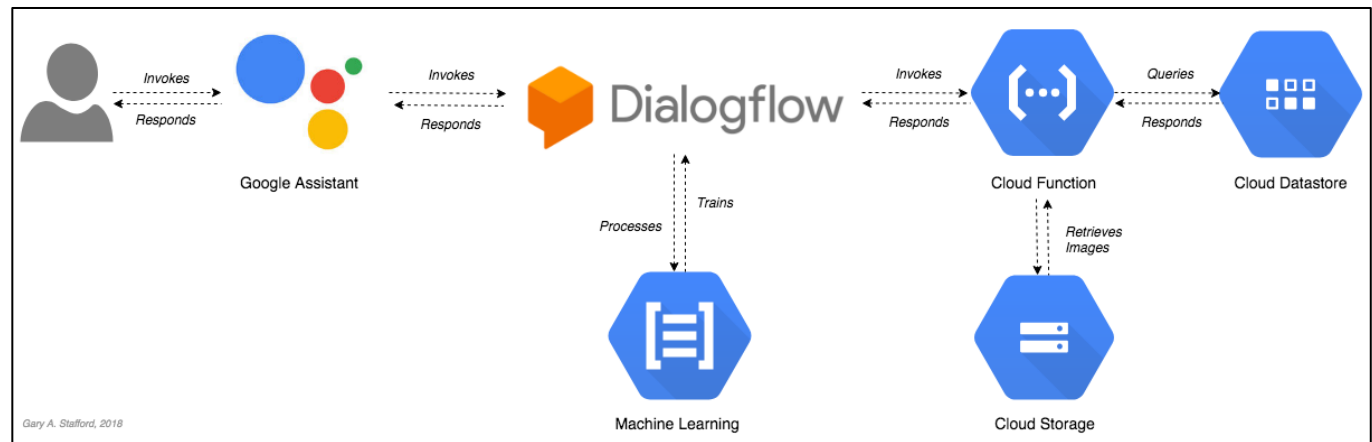


See, e.g., <https://cloud.google.com/dialogflow/docs/api-overview>.

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

1. The end-user types or speaks an expression.
2. Your service sends this end-user expression to Dialogflow in a detect intent request message.
3. Dialogflow sends a detect intent response message to your service. This message contains information about the matched intent, the action, the parameters, and the response defined for the intent.
4. Your service performs actions as needed, like database queries or external API calls.
5. Your service sends a response to the end-user.
6. The end-user sees or hears the response.

See, e.g., id.



See, e.g., <https://programmaticponderings.com/2018/08/11/building-serverless-actions-for-google-assistant-with-google-cloud-functions-cloud-datastore-cloud-storage/>.

Further, the computer is operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine.

1[a]. "providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;"

An All-Neural On-Device Speech Recognizer

Tuesday, March 12, 2019

Posted by Johan Schalkwyk, Google Fellow, Speech Team

In 2012, speech recognition research showed significant accuracy improvements with deep learning, leading to early adoption in products such as Google's Voice Search. It was the beginning of a revolution in the field: each year, new architectures were developed that further increased quality, from deep neural networks (DNNs) to recurrent neural networks (RNNs), long short-term memory networks (LSTMs), convolutional networks (CNNs), and more. During this time, latency remained a prime focus — an automated assistant feels a lot more helpful when it responds quickly to requests.

Today, we're happy to announce the rollout of an end-to-end, all-neural, on-device speech recognizer to power speech input in Gboard. In our recent paper, "Streaming End-to-End Speech Recognition for Mobile Devices", we present a model trained using RNN transducer (RNN-T) technology that is compact enough to reside on a phone. This means no more network latency or spottiness — the new recognizer is always available, even when you are offline. The model works at the character level, so that as you speak, it outputs words character-by-character, just as if someone was typing out what you say in real-time, and exactly as you'd expect from a keyboard dictation system.

See, e.g., <https://ai.googleblog.com/2019/03/an-all-neural-on-device-speech.html>.

1[a]. "providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;"

How Conversational Actions work ⇄

Unlike with traditional mobile and desktop apps, which use computer-centric paradigms, users interact with Actions for the Assistant through natural-sounding, back and forth conversation. Conversational Actions begin when invoked by a user and continue until the user chooses to exit (using predetermined phrases) or your Conversational Action denotes the end of the conversation.

During a conversation, user inputs are transformed from speech to text by the Assistant, and formed into JSON requests for natural language processing. These requests are sent to what's known as your **conversation fulfillment**.

Your conversation fulfillment parses the user's query into structured data, processes that data, and returns a webhook JSON response to the Assistant. The Assistant then processes and presents your response to the user.

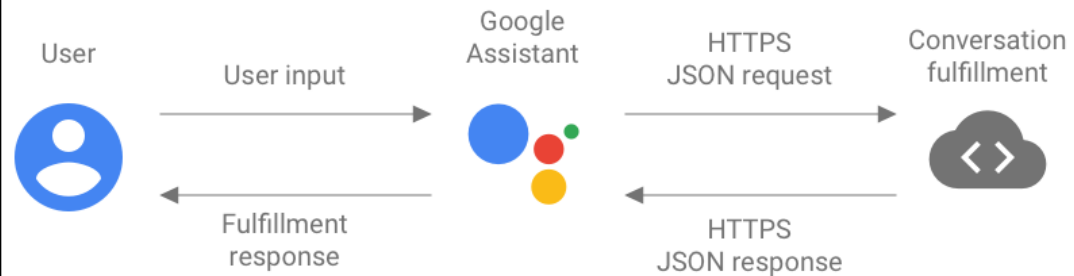
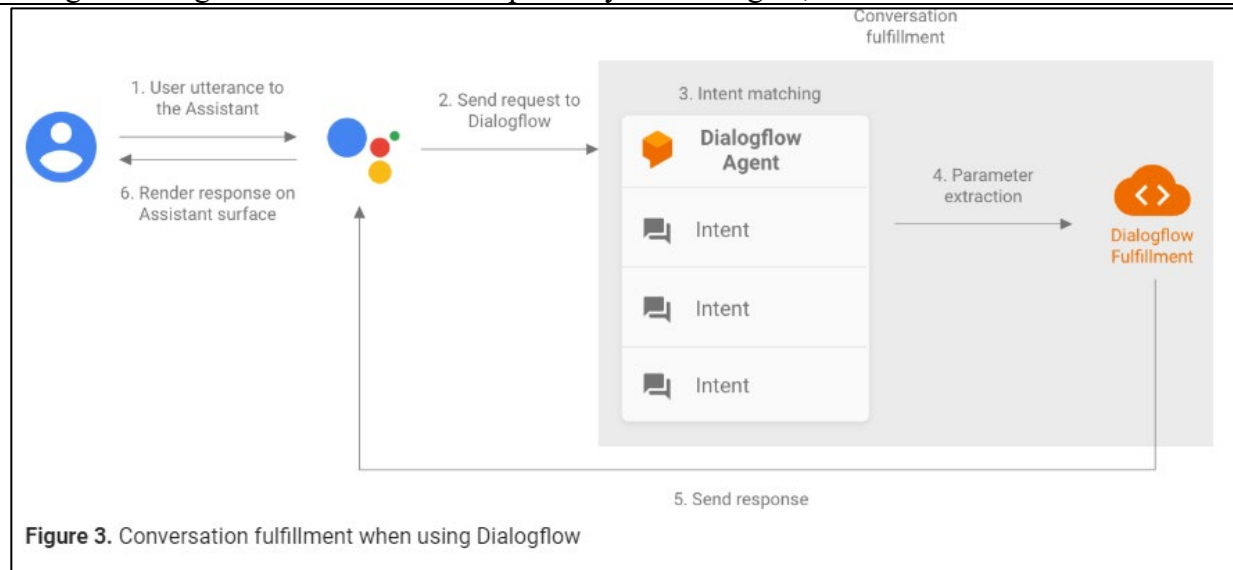


Figure 2. Conversation fulfillment is a JSON in-JSON out system

Building your own natural language processing service can be challenging, so we provide Dialogflow as a way to handle it for you. For developers who cannot use Dialogflow, we also provide the Actions SDK as a backup option with a separate, but related, development path.

See, e.g., <https://developers.google.com/assistant/conversational/overview>.

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”



See, e.g., <https://developers.google.com/assistant/conversational/overview>.

Built on Google infrastructure

Dialogflow is a Google service that runs on Google Cloud Platform, letting you scale to hundreds of millions of users.

Optimized for the Google Assistant

Dialogflow is the most widely used tool to build Actions for more than 400M+ Google Assistant devices.

See, e.g., <https://dialogflow.com/>

Dialogflow is a natural language understanding platform that makes it easy to design and integrate a conversational user interface into your mobile app, web application, device, bot, interactive voice response system, and so on. Using Dialogflow, you can provide new and engaging ways for users to interact with your product.

Dialogflow can analyze multiple types of input from your customers, including text or audio inputs (like from a phone or voice recording). It can also respond to your customers in a couple of ways, either through text or with synthetic speech.

See, e.g., <https://cloud.google.com/dialogflow/docs/>

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”



Powered by Google machine learning

Natural language understanding recognizes a user's intent and extracts prebuilt entities such as time, date, and numbers. You can train your agent to identify custom entity types by providing a small dataset of examples. You can also use [40+ prebuilt agents](#) as templates.

See, e.g., <https://cloud.google.com/dialogflow/>.



Designed for a voice-first world

You can expand your conversational interface to recognize voice interactions and generate a voice response, all with a single API call. Powered by [Google Cloud Speech-to-Text](#) and [Cloud Text-to-Speech](#), it supports real-time streaming and synchronous modes.

See, e.g., <https://cloud.google.com/dialogflow/>.

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

The most significant Assistant news. But by far the most significant Assistant news was the movement of speech processing onto the handset from the network. Google said it had reduced the computing power required to do speech processing from 100GB to “less than half a gigabyte.” The practical effect of that is that most of the speech processing can now take place on the smartphone – making the Assistant and its associated functions (opening apps, dictating messages) much much faster. It can also happen without a network connection.

See, e.g., <https://searchengineland.com/google-assistant-moves-from-the-cloud-to-the-phone-now-10x-faster-316556>.

Starting today, third-party developers will have access to the same speech recognition technology that powers Google’s products. Available in Google Cloud, the **Cloud Search API** has also been updated with new features and improved performance.

See, e.g., <https://9to5google.com/2017/04/18/google-cloud-speech-api-recognition/>.

Powerful speech recognition

Google Cloud Speech-to-Text enables developers to convert audio to text by applying powerful neural network models in an easy-to-use API. The API recognizes 120 languages and variants to support your global user base. You can enable voice command-and-control, transcribe audio from call centers, and more. It can process real-time streaming or prerecorded audio, using Google’s machine learning technology.

See, e.g., <https://cloud.google.com/speech-to-text/>.



Powered by machine learning

Apply the most advanced deep-learning neural network algorithms to audio for speech recognition with unparalleled accuracy. Accuracy improves over time as Google improves the internal speech recognition technology used by Google products.

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

See, e.g., id.

Features

Automatic speech recognition

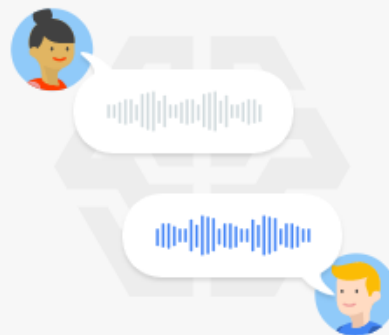
Automatic speech recognition (ASR) powered by deep learning neural networking to power your applications like voice search or speech transcription.

See, e.g., id.

High-fidelity speech synthesis

Google Cloud Text-to-Speech converts text into human-like speech in more than 180 voices across 30+ languages and variants. It applies groundbreaking research in speech synthesis (WaveNet) and Google's powerful neural networks to deliver high-fidelity audio. With this easy-to-use API, you can create lifelike interactions with your users that transform customer service, device interaction, and other applications.

See, e.g., <https://cloud.google.com/text-to-speech/>.



Powered by Google's machine learning

Apply advanced deep learning neural network algorithms to synthesize text into a variety of voices and languages. Our neural networks were built based on Google's speech synthesis expertise.

See, e.g., id.

1[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

Text-to-Speech allows developers to create natural-sounding, synthetic human speech as playable audio. You can use the audio data files you create using Text-to-Speech to power your applications or augment media like videos or audio recordings (in compliance with the [Google Cloud Platform Terms of Service](#) including compliance with all applicable law).

Text-to-Speech converts text or Speech Synthesis Markup Language (SSML) input into audio data like MP3 or LINEAR16 (the encoding used in WAV files).

See, e.g., <https://cloud.google.com/text-to-speech/docs/basics>.

Speech synthesis

The process of translating text input into audio data is called *synthesis* and the output of synthesis is called *synthetic speech*. Text-to-Speech takes two types of input: raw text or SSML-formatted data (discussed below). To create a new audio file, you call the [synthesize](#) endpoint of the API.

The speech synthesis process generates raw audio data as a base64-encoded string. You must decode the base64-encoded string into an audio file before an application can play it. Most platforms and operating systems have tools for decoding base64 text into playable media files.

See, e.g., id.

Creating voice audio files

[SEND FEEDBACK](#)

Text-to-Speech allows you to convert words and sentences into base64 encoded audio data of natural human speech. You can then convert the audio data into a playable audio file like an MP3 by decoding the base64 data. The Cloud Text-to-Speech API accepts input as raw text or [Speech Synthesis Markup Language \(SSML\)](#).

See, e.g., <https://cloud.google.com/text-to-speech/docs/create-audio>.

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Overview

Actions on Google lets you extend the functionality of the Google Assistant with **Actions**. Actions let users get things done through a conversational interface that can range from a quick command to turn on some lights or a longer conversation, such as playing a trivia game.

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To extend the Google Assistant, you build an Action with the following steps.

See, e.g., <https://developers.google.com/assistant/actions/dialogflow>.

Help users interact with technology

Traditional computer interfaces require structured and predictable input to function properly, which makes the use of these interfaces unnatural and sometimes difficult. If end-users can't easily understand this structured input, they have a hard time figuring out what to do. Ideally, your interfaces can infer what your end-users want, based on the natural language they are using.

For example, consider a simple user request like "What's the weather forecast today?". Other end-users might also ask:

- "What's the weather like right now?"
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Even with these simple questions, you can see that conversational experiences are hard to implement. Interpreting and processing natural language requires a very robust language parser. Dialogflow handles this for you, so you can provide a high quality conversational end-user experience.

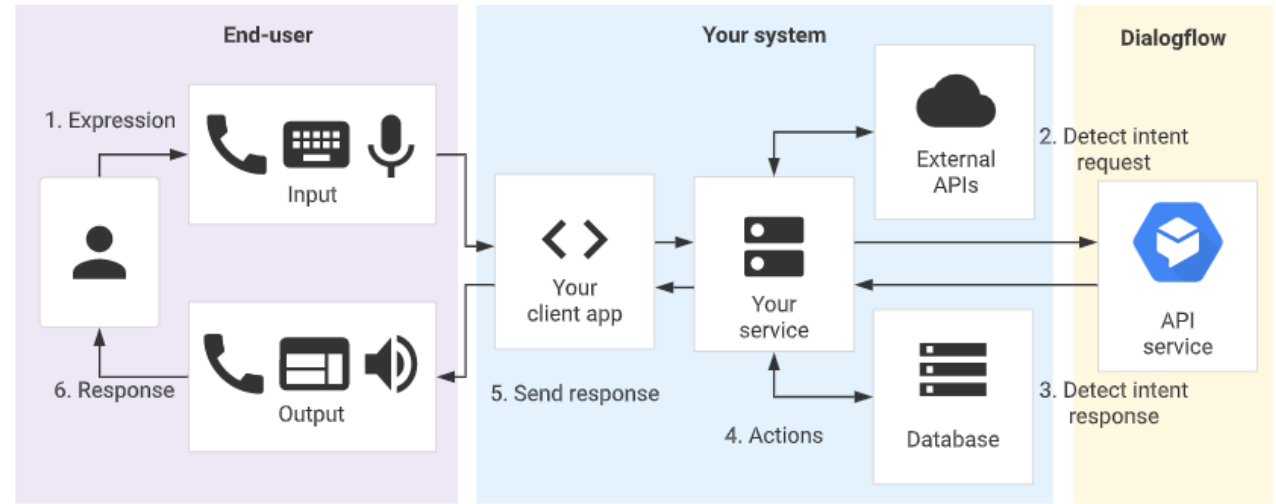
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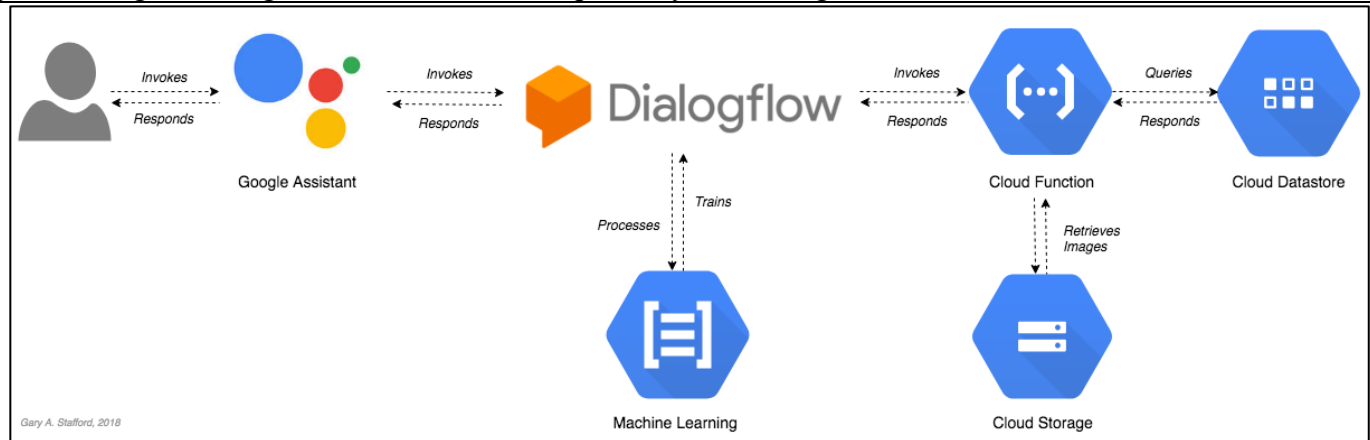


See, e.g., <https://cloud.google.com/dialogflow/docs/api-overview>.

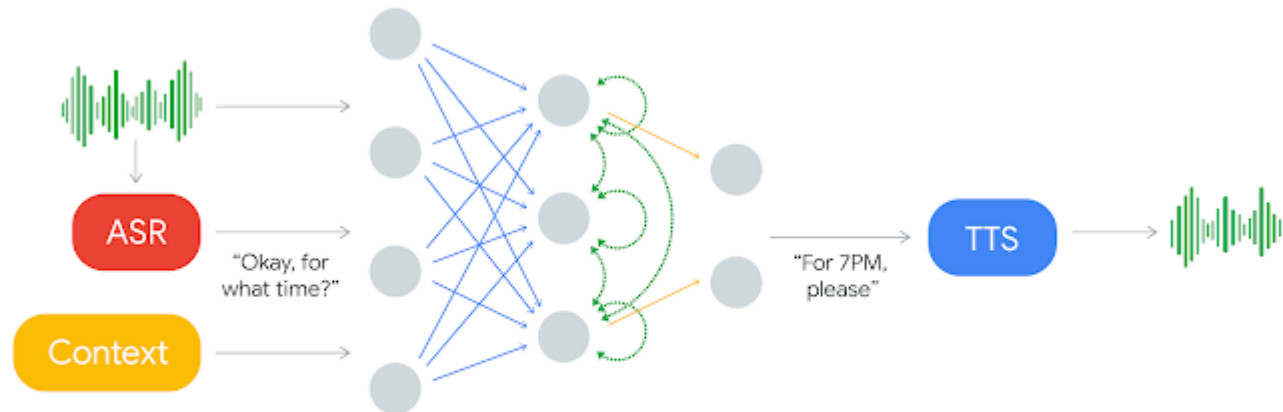
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5. Your service sends a response to the end-user.
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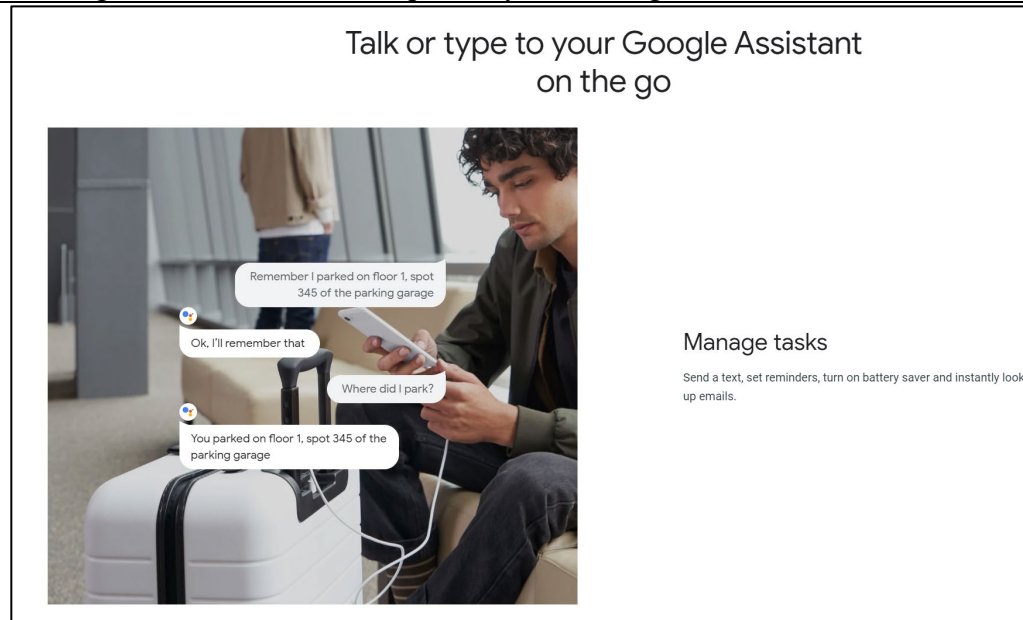
See, e.g., <https://programmaticponderings.com/2018/08/11/building-serverless-actions-for-google-assistant-with-google-cloud-functions-cloud-datastore-cloud-storage/>.



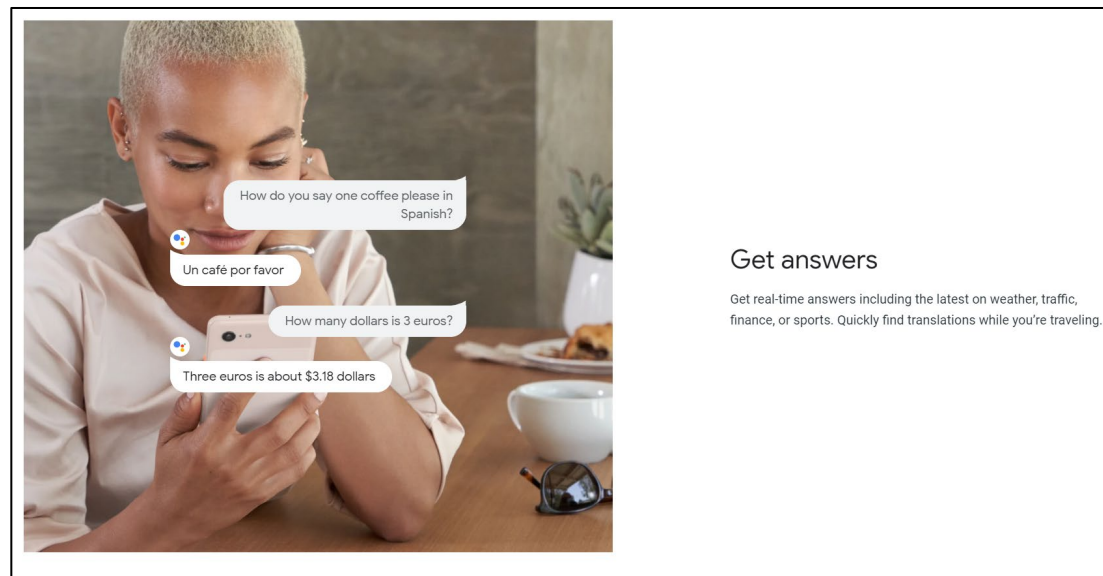
Incoming sound is processed through an ASR system. This produces text that is analyzed with context data and other inputs to produce a response text that is read aloud through the TTS system.

See, e.g., <https://ai.googleblog.com/2018/05/duplex-ai-system-for-natural-conversation.html>.

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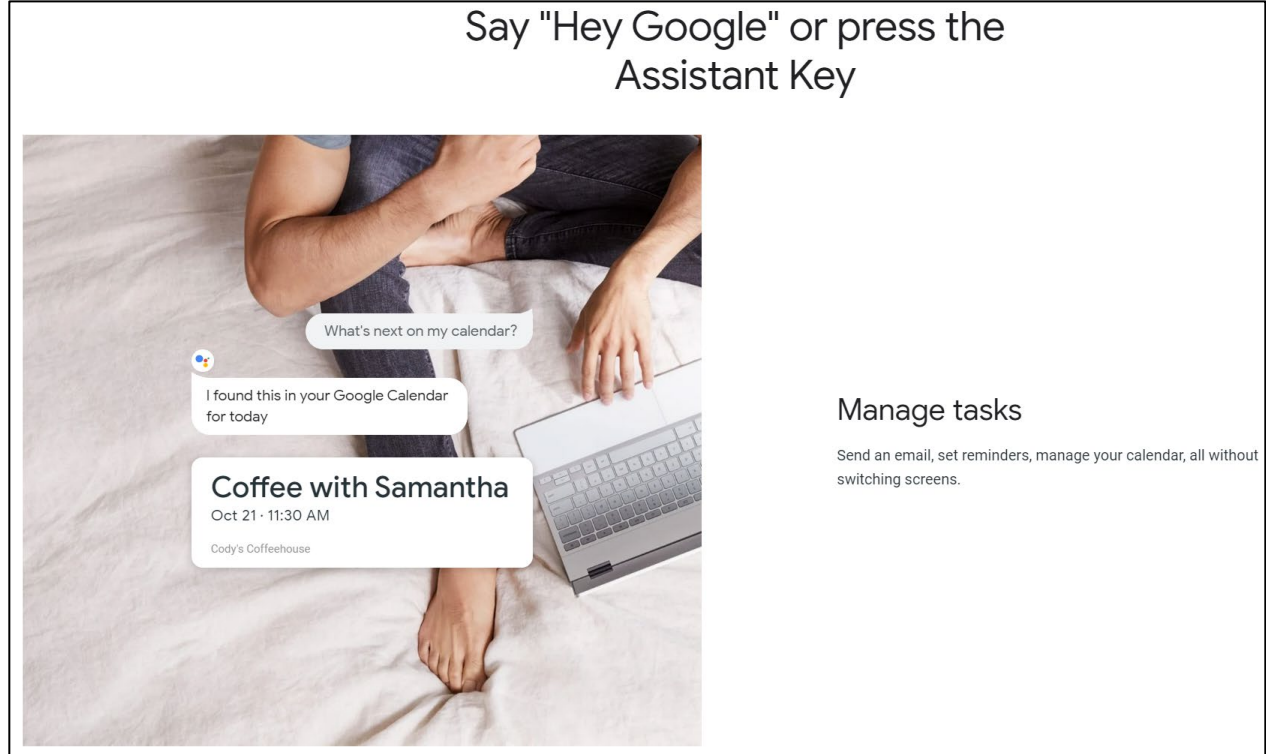


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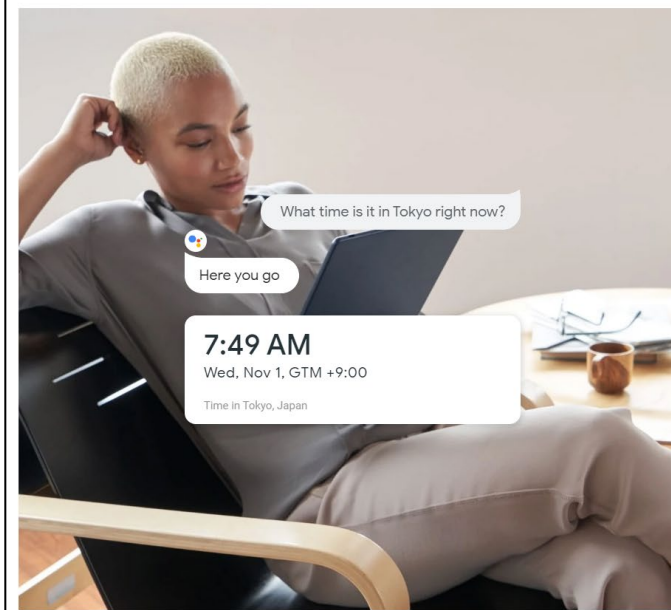
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Get answers

Ask questions and get answers to things you want to know. Just type, talk or circle.

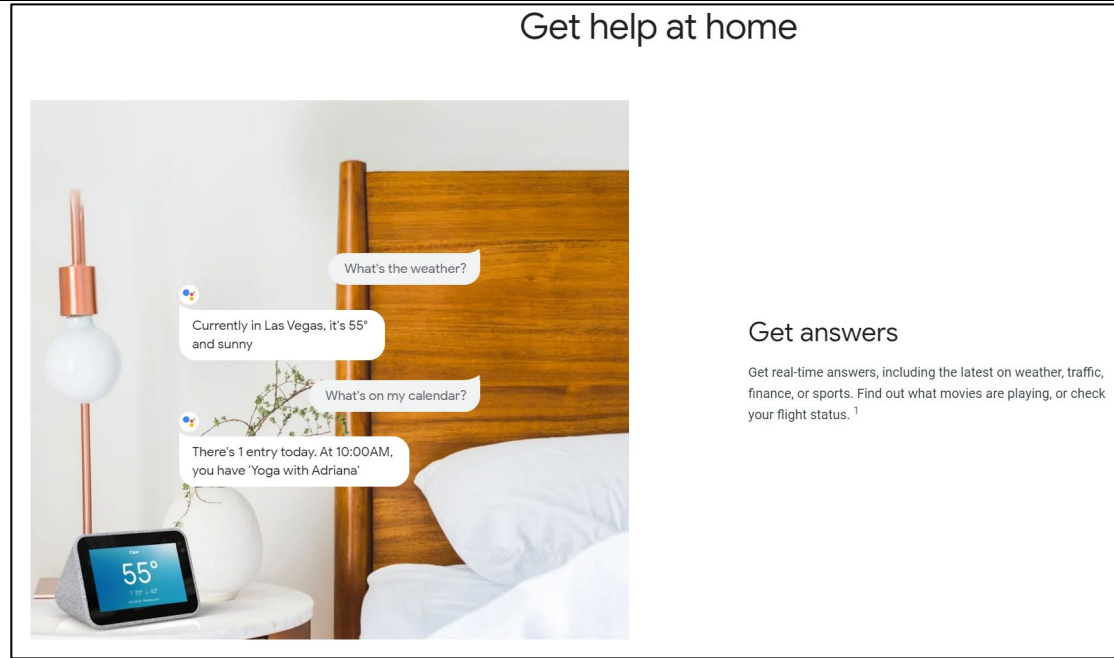
See, e.g., id.

The Google Assistant now in even more devices

With your Google Assistant in even more devices, it's easy to get things done. Just start with "Hey Google" to quickly get answers, manage daily tasks, and, of course, control your device or the rest of your smart home. Your Assistant can help free up your hands and time, so you can focus on the things that matter most.¹

See, e.g., <https://assistant.google.com/platforms/devices/>.

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Local Information

"What's the weather right now?"

"How's the traffic to work?"

"Give me directions to the airport"

"Find the closest ATM"

"What time does the post office close?"


"Call the nearest pharmacy"

"Will it rain tomorrow?"

"Find movies playing nearby"

See, e.g., <https://assistant.google.com/learn/>.

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	<div>  <h3>Quick answers</h3> <p>"How many ounces are in a pound?"</p> <p>"What's 20% of 47?"</p> <p>"How do you say hello in Chinese?"</p> <p>"How much protein is in an egg?"</p> <p>"What time is it in London?"</p> <p>"What's on my schedule today?"</p> <p>"When is sunset?"</p> <p>"What is the S&P 500 trading at?"</p> </div> <p><i>See, e.g., id.</i></p>
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Music and News

"Play workout music"

"Play Today's Top Hits on Spotify"

"Tell me the latest news"

"Play NPR news summary"

"Listen to ESPN SportsCenter"

"Play rain sounds"

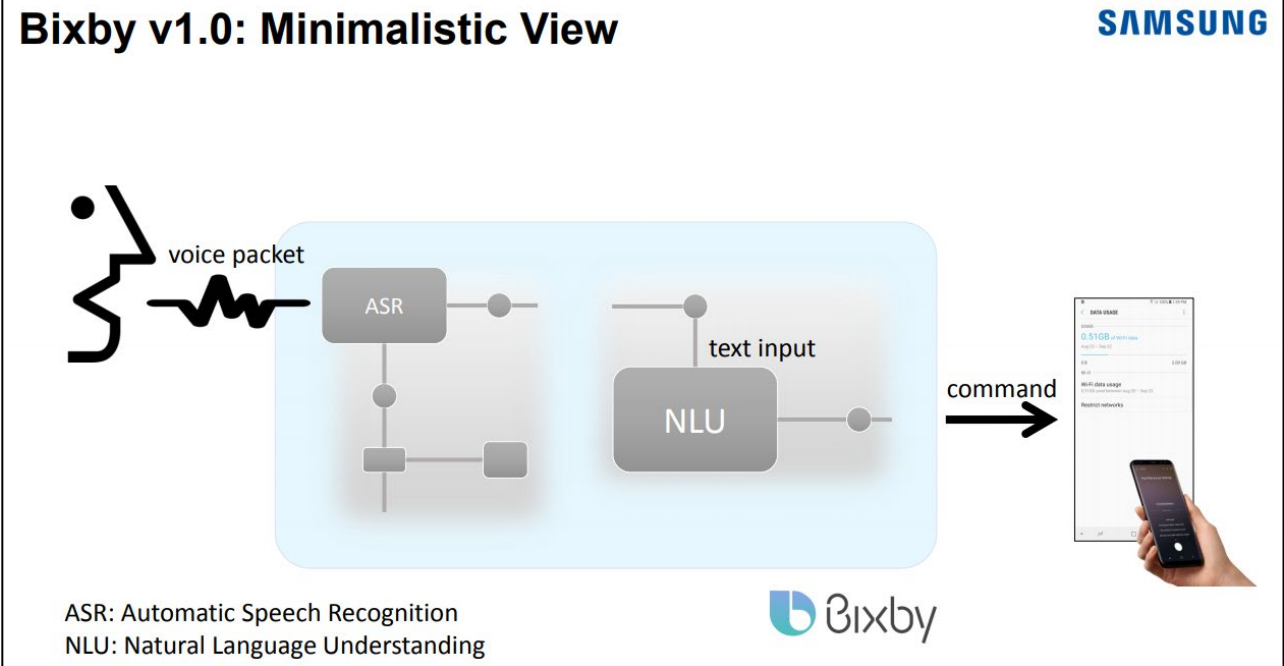
"Listen to Hidden Brain"

"Set volume to 3"

See, e.g., id.

On information and belief, the Samsung Accused Products in conjunction with Bixby also include at least one speech synthesis device.

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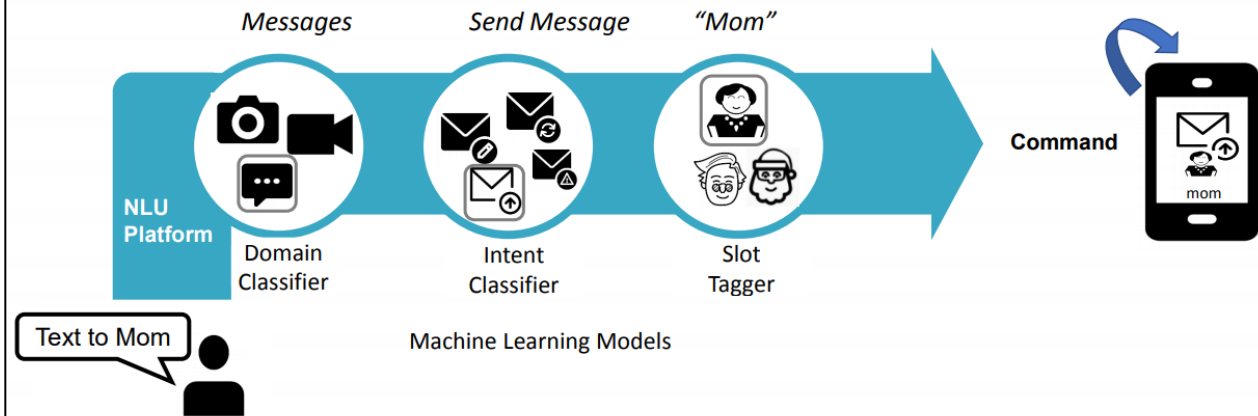


See, e.g., Samsung Voice Intelligence v5.5 Presentation at 9 (July 25, 2018), available at https://www.slideshare.net/vinutharani1995/samsung-voice-intelligencev55-107403316?from_action=save

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Traditional NLU Flow

SAMSUNG

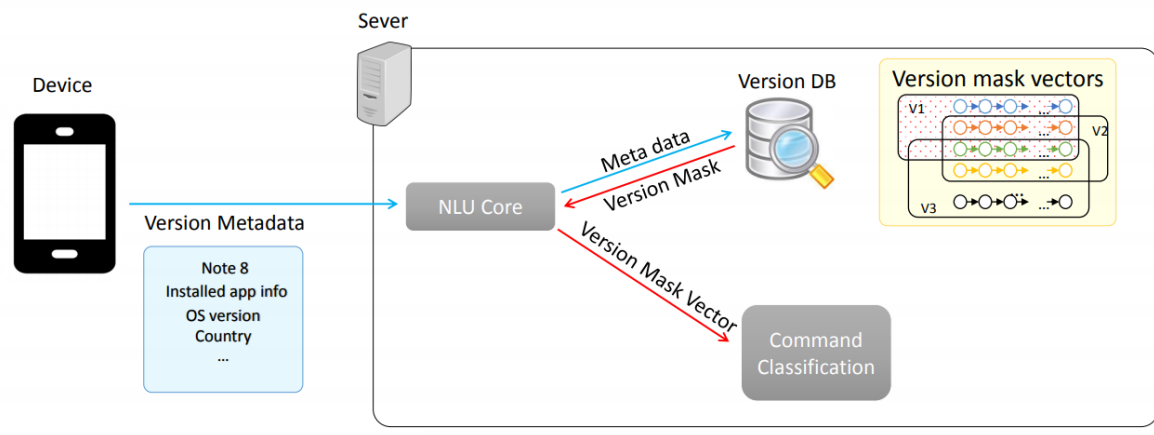


See, e.g., *id.* at 10.

Approach for Variable Output Space

SAMSUNG

Version Management Mechanism for NLU Engine



See, e.g., *id.* at 21.

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Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

See, e.g., <https://news.samsung.com/us/injong-rhee-bixby-a-new-way-to-interact-with-your-phone/>

What to Know About Bixby

Doesn't have a gender. Bixby has neither gender nor sex and does not identify with any sexual orientation.

Does not possess a body. Bixby doesn't have a physical presence and is not human.

Lives in the cloud. Bixby does not have a physical location.

But knows what's going on in the world. Bixby can make pop culture and news references.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/design-guides/writing>

Research Phase

While you're creating your own capsule, narrow down what you want the user to be able to accomplish through Bixby while using their device and the cloud platform. Essentially, you're asking "What ability do I want to teach Bixby?"

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/managing-caps.planning-external>

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For example, `spaceResorts`, local JavaScript files include all the necessary **action implementations** for each of the actions modeled, even sorting the various `*.js` files the same way as the action models. **JavaScript in this capsule is executed in the cloud through Bixby servers**, though JavaScript can also be executed on your server if your capsule uses remote **endpoints**. Additionally, the objects being returned from the calls are also in local JSON files, under the `code/lib` directory.

See, e.g., <https://bixbydevelopers.com/dev/docs/sample-capsules/walkthroughs/space-resorts>

Implementing JavaScript Actions

Functions are the implementations of actions. They actually execute the steps of a plan, by making computations or contacting external APIs. You first define inputs and outputs within an **action** first. You then implement functions using JavaScript to provide the necessary logic, operations, and to specify the same inputs and outputs as the action. **Local JavaScript is executed in the cloud on Bixby servers**, while remote JavaScript is executed on your own server.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/actions.js-actions>

Q. Will using Bixby eat up my mobile data, and is it possible to use it overseas?

Bixby only utilizes your mobile data when listening to a command, not before or after. As a result, the length of the command ultimately determines the amount of mobile data used.

See, e.g., <https://news.samsung.com/global/bixby-101-get-to-know-the-ins-and-outs-of-samsungs-intelligent-interface>

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

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Introduction to Training for Natural Language

Bixby uses natural language (NL) from the user as input. You can improve Bixby's ability to understand NL input by training Bixby to understand real-world examples of natural language in Bixby Developer Studio (Bixby Studio). For example, in the [Quick Start Guide](#), you train the dice game to recognize "roll 2 6-sided dice". This phrase is an **utterance**. NL training is based on utterances that humans might type or say when interacting within Bixby. Utterances don't have to be grammatical and can include slang or colloquial language.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/training.intro-training>

Using SSML

Bixby's dialog can include a subset of tags from [Speech Synthesis Markup Language \(SSML\)](#), a W3C standard for enriching text-to-speech.

To use SSML, you must observe the following rules:

- SSML is **only** valid inside the `speech` key in [dialog templates](#).
- Speech **must** start with the `<speech>` tag and end with the `</speech>` closing tag. If these tags are not present, the speech will not be recognized as containing SSML.
- The speech string **must** be enclosed in quote marks, and quotes inside the string **must** be escaped with a `\` character.

See, e.g., <https://bixbydevelopers.com/dev/docs/reference/ref-topics/ssml>

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Bixby Voice is easily activated. Users simply need to press and hold the dedicated hardware button on the side of the Galaxy S8, say “Bixby” or tap it on the Bixby Home screen to wake it up.

While most traditional smartphone-related tasks require touch activation, Bixby’s multi-modality lets users control their phone using voice and touch controls interchangeably for maximized convenience. Utilizing natural language understanding, Bixby has the ability to adapt to the unique speaking style of the user. But if Bixby doesn’t understand the user’s command, it will ask for more information so it can complete the task, rather than giving up.

See, e.g., <https://news.samsung.com/global/a-new-way-to-interact-with-your-phone-bixby-the-galaxy-s8-intelligent-interface>

Speak naturally.

Bixby understands natural, conversational language along with context, like the email you’re reading or the photo you just took. Simply talk the way you would to a friend to get what you need.

See, e.g., <https://www.samsung.com/us/explore/bixby/>

Make things happen.

Just say what you want, and Bixby will deliver. Sure you can ask for dinner reservation, but you can also call a ride all with your voice.

See, e.g., <https://www.samsung.com/global/galaxy/apps/bixby/>

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“What’s the status of flights from SFO to LAX?”

See, e.g., id.



“What’s the time difference between Paris and Seoul?”

See, e.g., id.

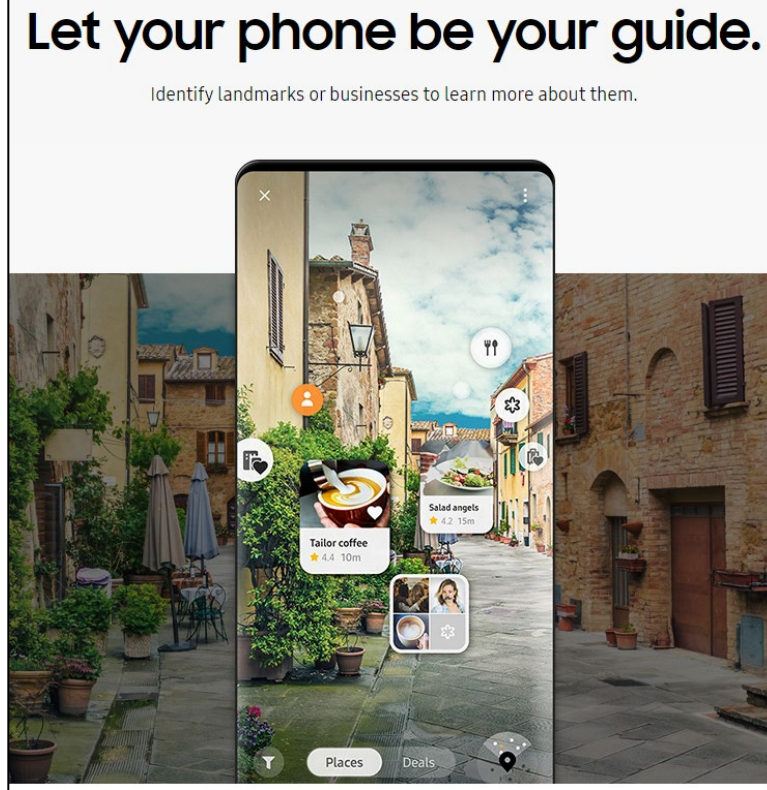
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“Give me the directions to 645 Clyde Ave.”

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You can search the internet

Samsung recommends using the phrase "Open Samsung Internet" to search for what you want, but I was able to ask:

- When was the Empire State Building constructed?
- When does the sun set in San Francisco tonight?
- What is the Giants' score?

And see Google results.

See, e.g., <https://www.cnet.com/news/samsung-galaxy-s8-bixby-voice-hands-on/>

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See, e.g., <https://www.youtube.com/watch?v=xISIMl-77TQ>

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

1[b]. "providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;"

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Samsung is infringing, and has infringed, element 1[b] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users.

The Samsung Accused Products include/practice providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users.

For example, the Samsung Accused Products allow a user to send speech commands via voice enabled device.

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

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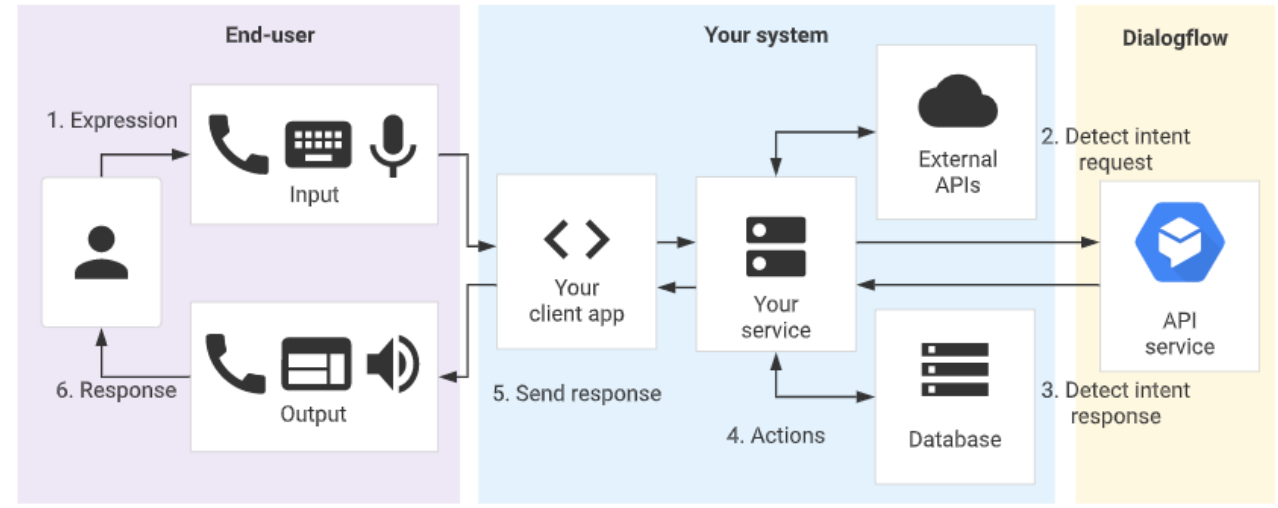
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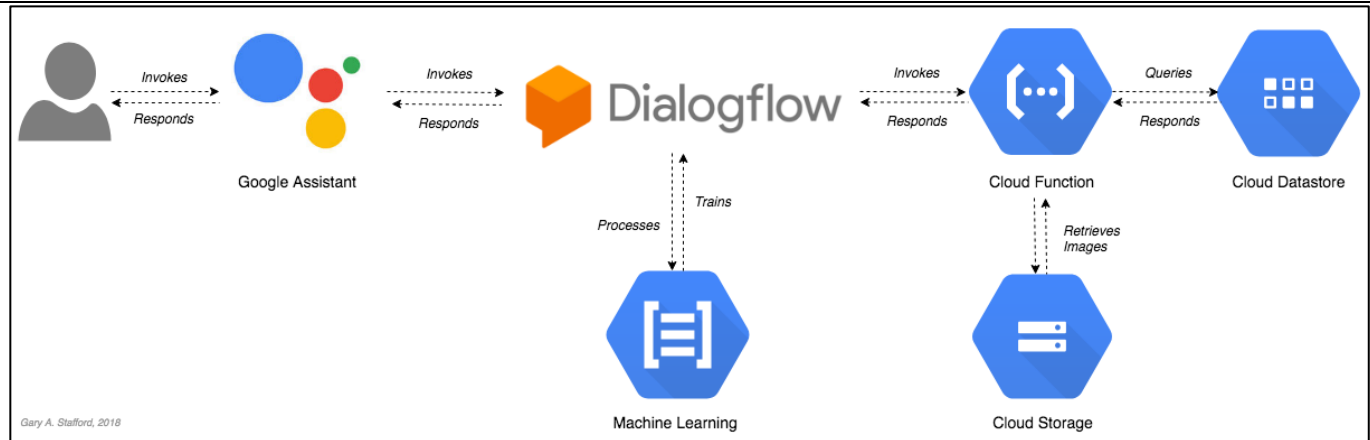


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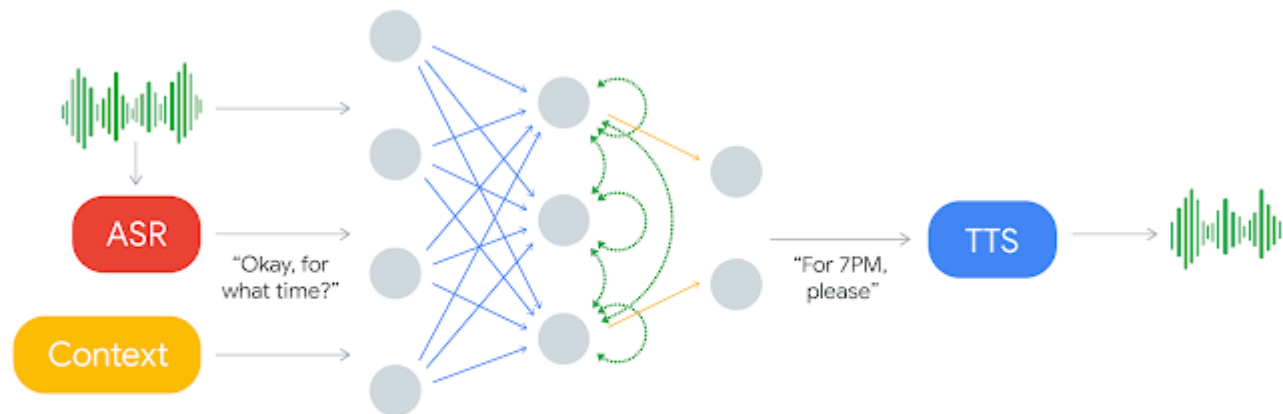
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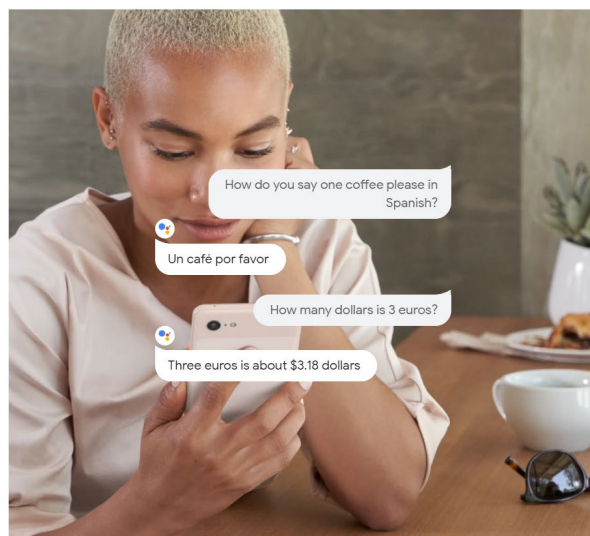
Talk or type to your Google Assistant on the go



Manage tasks

Send a text, set reminders, turn on battery saver and instantly look up emails.

See, e.g., <https://assistant.google.com/platforms/phones/>.



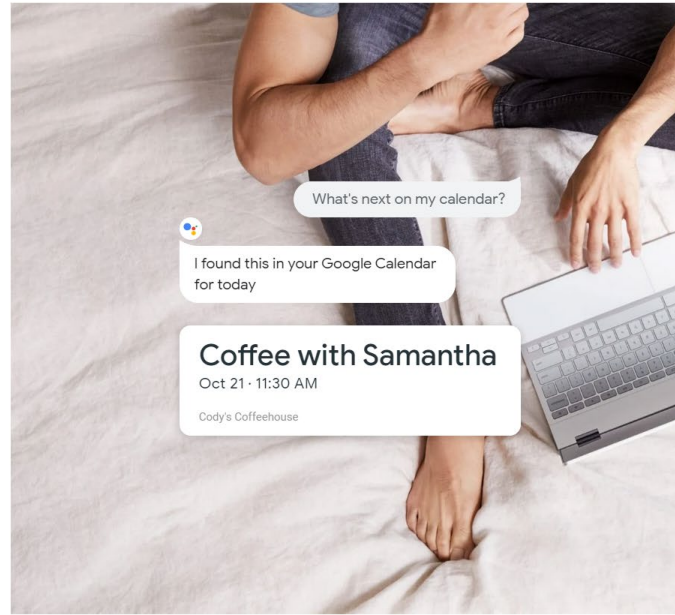
Get answers

Get real-time answers including the latest on weather, traffic, finance, or sports. Quickly find translations while you're traveling.

See, e.g., id.

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Say "Hey Google" or press the Assistant Key

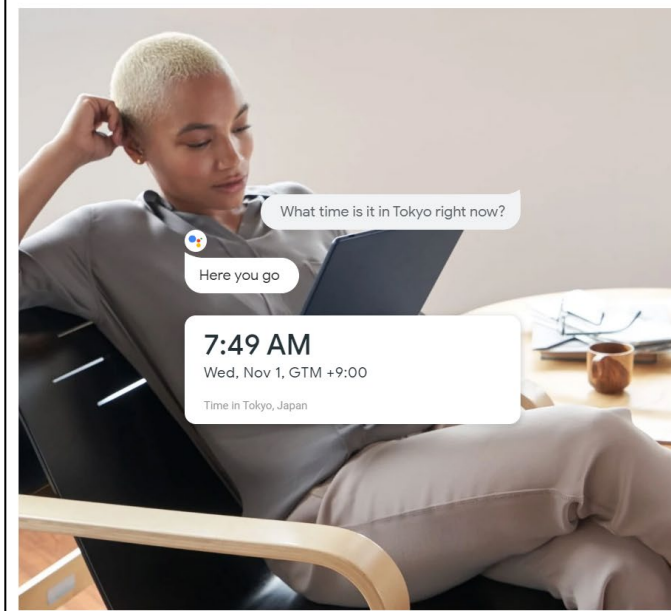


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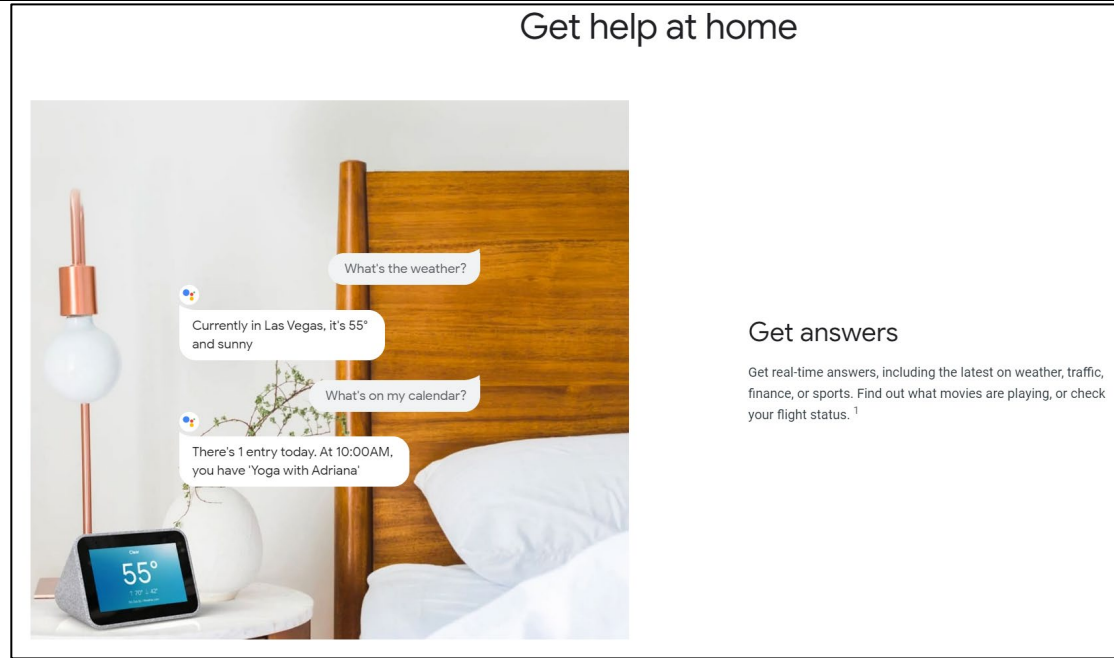
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The Google Assistant now in even more devices

With your Google Assistant in even more devices, it's easy to get things done. Just start with "Hey Google" to quickly get answers, manage daily tasks, and, of course, control your device or the rest of your smart home. Your Assistant can help free up your hands and time, so you can focus on the things that matter most.¹

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See, e.g., <https://assistant.google.com/learn/>.

1[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

	<div>  <h3>Quick answers</h3> <p>"How many ounces are in a pound?"</p> <p>"What's 20% of 47?"</p> <p>"How do you say hello in Chinese?"</p> <p>"How much protein is in an egg?"</p> <p>"What time is it in London?"</p> <p>"What's on my schedule today?"</p> <p>"When is sunset?"</p> <p>"What is the S&P 500 trading at?"</p> </div> <p><i>See, e.g., id.</i></p>
--	--

1[b]. "providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;"



Music and News

"Play workout music"

"Play Today's Top Hits on Spotify"

"Tell me the latest news"

"Play NPR news summary"

"Listen to ESPN SportsCenter"

"Play rain sounds"

"Listen to Hidden Brain"

"Set volume to 3"

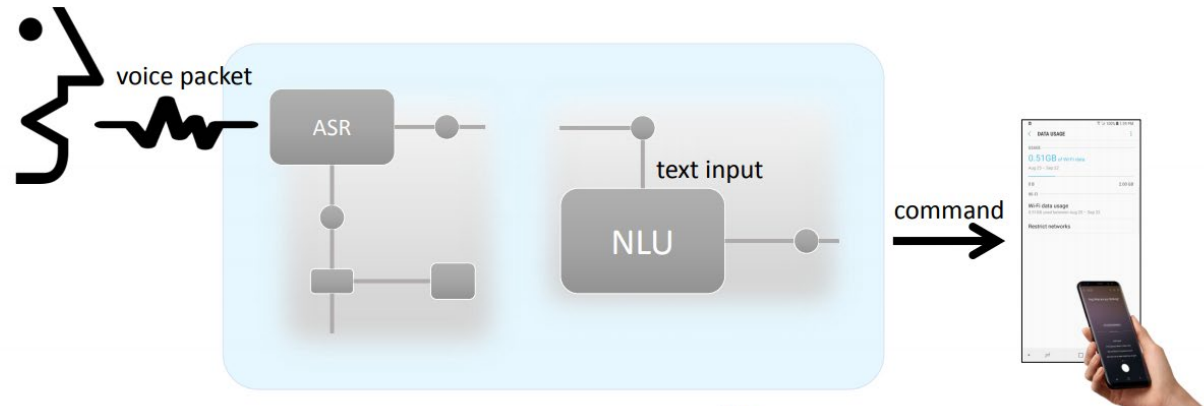
See, e.g., id.

On information and belief, the Samsung Accused Products are also operatively connected to the Samsung controlled servers utilized by the Samsung Accused Products to implement the functionality described herein. For example, on information and belief, Bixby also is/utilizes a cloud-based service to receive speech commands from users.

1[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

Bixby v1.0: Minimalistic View

SAMSUNG



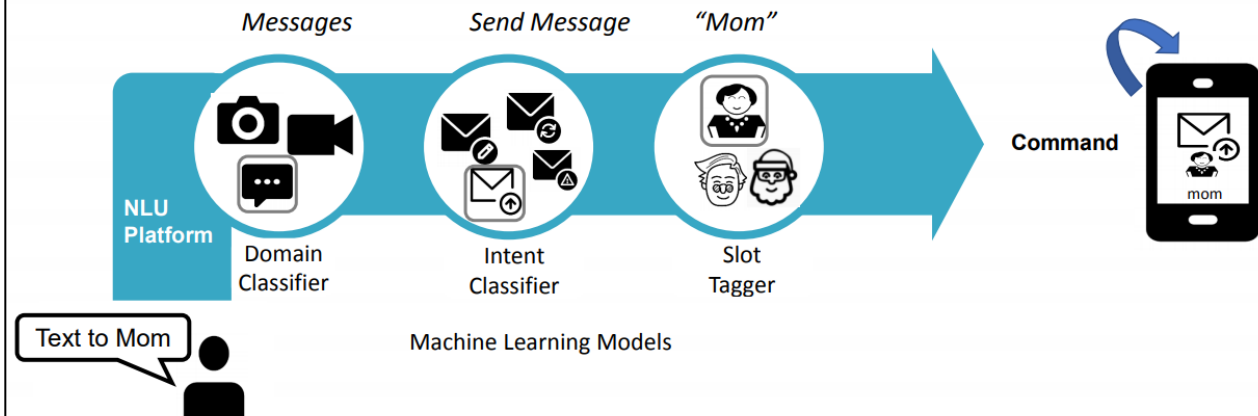
ASR: Automatic Speech Recognition
NLU: Natural Language Understanding

See, e.g., Samsung Voice Intelligence v5.5 Presentation at 9 (July 25, 2018), available at https://www.slideshare.net/vinutharani1995/samsung-voice-intelligencev55-107403316?from_action=save

1[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

Traditional NLU Flow

SAMSUNG

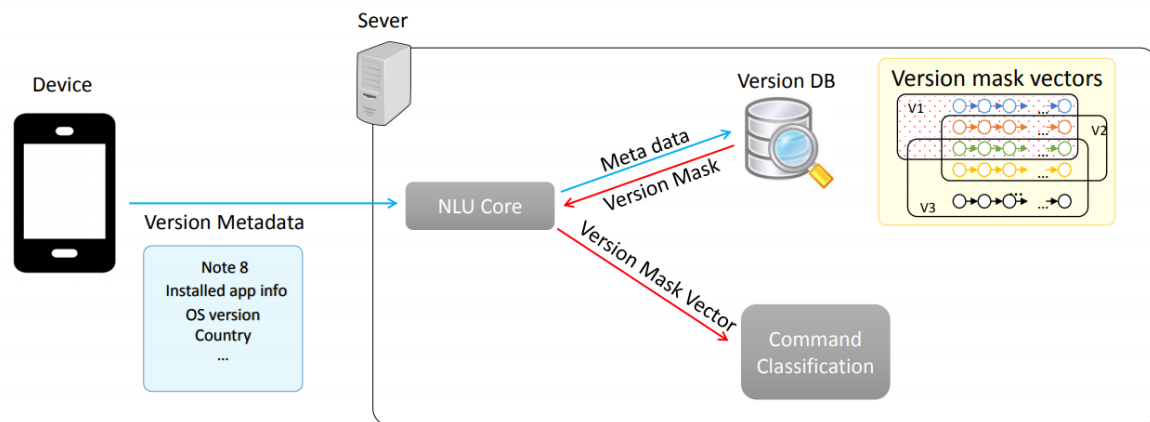


See, e.g., *id.* at 10.

Approach for Variable Output Space

SAMSUNG

Version Management Mechanism for NLU Engine



See, e.g., *id.* at 21.

1[b]. "providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;"

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

See, e.g., <https://news.samsung.com/us/injong-rhee-bixby-a-new-way-to-interact-with-your-phone/>

What to Know About Bixby

Doesn't have a gender. Bixby has neither gender nor sex and does not identify with any sexual orientation.

Does not possess a body. Bixby doesn't have a physical presence and is not human.

Lives in the cloud. Bixby does not have a physical location.

But knows what's going on in the world. Bixby can make pop culture and news references.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/design-guides/writing>

Research Phase

While you're creating your own capsule, narrow down what you want the user to be able to accomplish through Bixby while using their device and the cloud platform. Essentially, you're asking "What ability do I want to teach Bixby?"

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/managing-caps.planning-external>

1[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

For example, `spaceResorts`, local JavaScript files include all the necessary **action implementations** for each of the actions modeled, even sorting the various `*.js` files the same way as the action models. **JavaScript in this capsule is executed in the cloud through Bixby servers**, though JavaScript can also be executed on your server if your capsule uses remote **endpoints**. Additionally, the objects being returned from the calls are also in local JSON files, under the `code/lib` directory.

See, e.g., <https://bixbydevelopers.com/dev/docs/sample-capsules/walkthroughs/space-resorts>

Implementing JavaScript Actions

Functions are the implementations of actions. They actually execute the steps of a plan, by making computations or contacting external APIs. You first define inputs and outputs within an **action** first. You then implement functions using JavaScript to provide the necessary logic, operations, and to specify the same inputs and outputs as the action. **Local JavaScript is executed in the cloud on Bixby servers**, while remote JavaScript is executed on your own server.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/actions.js-actions>

Q. Will using Bixby eat up my mobile data, and is it possible to use it overseas?

Bixby only utilizes your mobile data when listening to a command, not before or after. As a result, the length of the command ultimately determines the amount of mobile data used.

See, e.g., <https://news.samsung.com/global/bixby-101-get-to-know-the-ins-and-outs-of-samsungs-intelligent-interface>

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

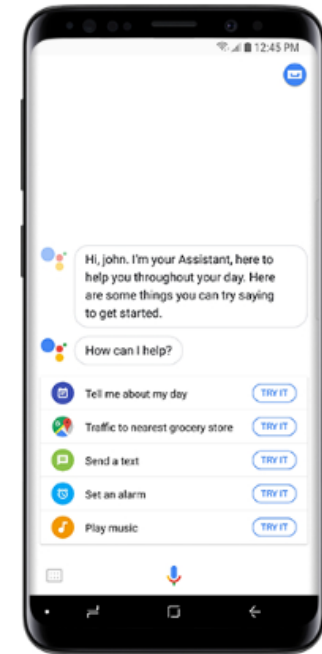
See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

Further, the Samsung Accused Products, including their resident voice-enabled device, are configured to receive speech commands from users.

1[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

Use Google Assistant

Now that the ice has been broken, Google Assistant will help you whenever you want. To open Google Assistant, touch and hold **Home**. Touch the **Speak** icon to interact with Google Assistant, and then ask, "What can you do?" Swipe to the left to see a list of things Google Assistant can help with, like adjusting your Smart Home features.



See, e.g., <https://www.samsung.com/us/support/answer/ANS00077672/>.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

1[c]. “providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:”

1[c]. providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:

Samsung is infringing, and has infringed, element 1[c] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing at least one instruction set stored in a database operatively connected to said computer.

The Samsung Accused Products include/practice providing at least one instruction set stored in a database operatively connected to said computer.

For example, when a user states a speech command, the Samsung Accused Products provide that speech command to the speaker-independent speech recognition engine, and the speech commands correspond to some instruction set. One example in the Samsung Accused Products is the thermostat control instruction set.

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

1[c]. "providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:"

Step 2. Ask for weather information

Here are some ways to talk with your Google Assistant on your speaker or display about weather and forecasts:

To do this:	Say "Hey Google," then:
Ask for current weather	<p>"What's the weather?"</p> <p>Note: This command will provide weather information for your device home address.</p>
<p>Ask for weather forecast for:</p> <ul style="list-style-type: none"> • Tomorrow • Specific day • Weekend • Week • Next xx days (choose up to 10 days) 	<p>"What's the weather tomorrow, specific day, weekend, for the next 4 days?"</p> <p>"What will the weather be like between <day> and <day>?"</p> <p>Note: This command will provide weather information for your device home address.</p>
Ask specific questions about weather or forecast	<p>"Is it going to rain tomorrow?"</p> <p>"Is it sunny today?"</p> <p>"Will I need an umbrella tomorrow?"</p> <p>Note: This command will provide weather information for your device home address.</p>

See, e.g., <https://support.google.com/googlenest/answer/7072091?hl=en>.

1[c]. “providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:”

Ask specific question about weather or forecast in a certain location for:	"Will it rain tomorrow in London?" "What's the weather this weekend in Mountain View?"
<ul style="list-style-type: none"> • Tomorrow • Specific day • Weekend • Week • Next xx days (choose between 1-10 days) 	
Ask for general weather in a certain location	"What's the weather in London?"
Specify unit	"What's the weather in Celsius?"

Important: Be specific with your query to get the correct weather information.

- “Hey Google, how is the weather?” Your speaker or display will provide weather information from your [device address](#).
- “Hey Google, what is the weather in Mountain View?” Speaker or display will provide weather information from the location you specified.

See, e.g., <https://support.google.com/googlenest/answer/7072091?hl=en>.

Google Home and Google Nest: Link these weather services for the most accurate forecast

Google Assistant can report more than just temperature and humidity -- ask these questions to find out about air quality, UV index, wind data and more.

1[c]. "providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:"

See, e.g., <https://www.cnet.com/home/smart-home/google-home-and-google-nest-link-these-weather-services-for-the-most-accurate-forecast/>.

Go beyond temperatures

Weather comprises a lot more than just what the day's highs and lows are expected to be. Air quality, wind strength, water levels and length of daylight all play a role in describing the weather, as do many other metrics Google Home can report on. Here are some of the many data points you can ask Google Home about:

See, e.g., <https://www.cnet.com/home/smart-home/google-home-and-google-nest-link-these-weather-services-for-the-most-accurate-forecast/>.

1[c]. "providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:"

- **AirCheck:** Find out the local air quality by asking, "OK, Google, what's the air quality index today in Paducah [or your city]."
- **UV Index:** Know how much sunscreen you're going to need by asking, "Hey, Google, what's the UV index today?"
- **Mr. Breezy:** Say, "Hey, Google, talk to Mr. Breezy" to get wind strength and direction for your area.
- **Sunrise and sunset:** Say, "OK, Google, what time does the sun set tonight [or rise tomorrow]?" and Google Home will answer based on the city you're in.
- **Seaside Buoy:** Before you load up your surfboard and head to the beach, say, "Hey, Google, ask Seaside Buoy how big are the waves today in San Clemente [or another beach]."
- **Rivers.run:** Find out if a canoeing, kayaking or white water rafting trip is in the forecast by asking, "Hey, Google, ask Rivers.run if the Lower Gauley [or another river] is running today."

See, e.g., <https://www.cnet.com/home/smart-home/google-home-and-google-nest-link-these-weather-services-for-the-most-accurate-forecast/>.

Other speech commands, such as information queries, correspond to a different instruction set.

1[c]. “providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:”

"How do I get to the moon?"

Hey, I'd like to be one of those people — how do I get in on this whole moon thing? I'm feeling starved for glory. Here, Google returns a list-based format. I've purposely chosen a messy example (notice how Google presents an ordered list but then repeats the numbering, e.g. "1. Step 1.") to see how Google Home will handle it...

1. Step 1: Assemble the Pieces. Going lunar Apollo-style requires a three-part spacecraft. ...
2. Step 2: Power Up. ...
3. Step 3: Shoot the Moon. ...
4. Step 4: Pull Up for a Landing. ...
5. Step 5: Take a Walk and a Souvenir.



[How to Get to the Moon in 5 'Small' Steps - Live Science](https://www.livescience.com/33423-how-to-get-to-moon.html)
www.livescience.com/33423-how-to-get-to-moon.html

See, e.g., <https://moz.com/blog/how-to-rank-on-google-home>.

On information and belief, the instruction set is stored in a database with the other instruction sets and is operatively connected to said computer.

On information and belief, there is no evidence to indicate that the relevant operation of Google Assistant and/or Bixby on the Samsung Accused Products is different from described herein. Rather, public information indicates that Bixby “essentially works the same way” as the Google Assistant.

How Bixby works

1[c]. "providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:"

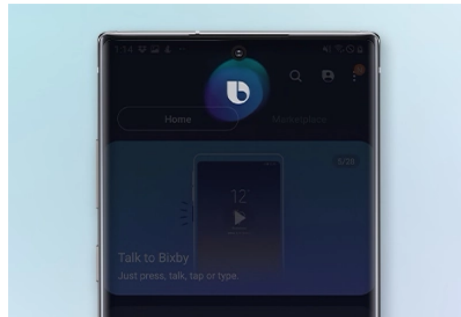
Bixby should also be able to understand natural language: this means that you don't need to use set phrases, but you can give incomplete information and Bixby can interpret and take action. Natural language recognition has been key to the rise of Alexa, for example, and is now a key element of modern AI.

The service essentially works in the same way as other AI solutions like Google Assistant or Amazon Alexa in that it listens to your voice, interprets the information, and returns the resulting action.

available at <https://www.pocket-lint.com/phones/news/samsung/140128-what-is-bixby-samsungs-assistant-explained-and-how-to-use-it>.

Change the AI assistant on your Galaxy phone

Last Update date : Oct 03, 2020



Bixby and Google Assistant are both handy AI programs that you can use on your phone, but you're not limited to those two - you can even set Samsung Internet as a phone assistant. Each assistant is awesome in its own way, but Bixby is made specifically for Galaxy phones and has its own special features. However, you can change the default assistant on your phone if you'd like.

available at <https://www.samsung.com/ca/support/mobile-devices/galaxy-phone-change-the-ai-assistant/>

1[c]. “providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:”

What to know about Bixby

While Bixby is similar to Google Assistant (which is also available on Samsung devices), Bixby is found exclusively on Samsung devices — it's unavailable on any other Android brand. Samsung has included it on every new Samsung device, starting with the Galaxy S8 in 2017. In addition to phones and tablets, it's built into the Samsung Galaxy Watch and is the voice assistant in the Samsung Galaxy Home, a smart speaker that Samsung announced in 2018 but has still not been released.

available at <https://www.businessinsider.com/bixby>.

Bixby is an [artificial intelligence](#) (AI) system developed by Samsung Electronics to make [device](#) interaction easier and to avoid complexity of fully featured devices. Bixby is Samsung's very own virtual assistant and the electronics giant's new effort to offer an intelligent agent to compete with Google Assistant, Apple's Siri, and Amazon's Alexa. Like other voice-based virtual assistants out there, Bixby uses neural nets and [deep learning](#) to interpret what it should do based on what a person says or asks. It uses natural language processing to understand how we talk and what we mean. It basically means anyone with a Samsung smartphone or a Samsung TV will be able to use Bixby for a [wide](#) variety of tasks, queries, and capabilities, just like Google Assistant. Bixby is a major overhaul of the S Voice, the bundled voice command application that comes built-in with the Samsung Galaxy S5 and other devices.

– While both Google Assistant and Bixby have similar smart assistant features, Google Assistant is uniquely integrated with the Google Home ecosystem and is available for Android and iOS devices (limited functionality on iOS), whereas Bixby is specific to Samsung devices and apps. Bixby is tied to the Samsung's SmartThings hub and has

1[c]. "providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:"

While both Google Assistant and Bixby are pretty much the same, when it comes to basic functionalities like executing voice commands to perform a wide range of tasks, Google Assistant is tied to the Google Home ecosystem, whereas Bixby is limited to the Samsung universe. Google Assistant also uses other services from the Alphabet/Google Company, as available at <http://www.differencebetween.net/technology/difference-between-google-assistant-and-bixby/>.

If you are using a Samsung device for the first time, you might be surprised to learn that Samsung has its own voice assistant similar to Apple's Siri, Amazon's Alexa, and [Google Assistant](#). It's called Bixby and is built into many Samsung devices. It works like any of those other voice assistants, so you can use it to answer questions, perform common commands, and automate tasks that you frequently perform with your phone.

available at <https://www.businessinsider.com/bixby>.

First of all, both Google Assistant and Bixby supports voice and keyboard input to ask queries and questions. With Google Assistant, you can send a message, open an app, check weather, and even send a WhatsApp message.

available at <https://techwiser.com/bixby-vs-google-assistant-comparison>.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

1[d]. "at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and"

1[d]. at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and

Samsung is infringing, and has infringed, element 1[d] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.

The Samsung Accused Products include at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.

For example, Google advertises many smart-home devices that are compatible with the Samsung Accused Products. One such device is the LIFX Color light bulb.



LIFX Color

[Shop now >](#)

See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

1[d]. “at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and”

Product Specifications

Brightness: 1100 Lumens (75W equivalent)

Wattage Use: 11.5 Watts at full brightness

Wattage on Standby: <0.5W

Voltage Range: AC 100-240V 50/60 Hz

Color Temperature: 1500K - 9000K

Beam Angle: 210°

Dimming: Software dimming 1% - 100%

Wi-Fi Router Requirement: 802.11b,g,n standards compliant

Security: WPA, WPA2

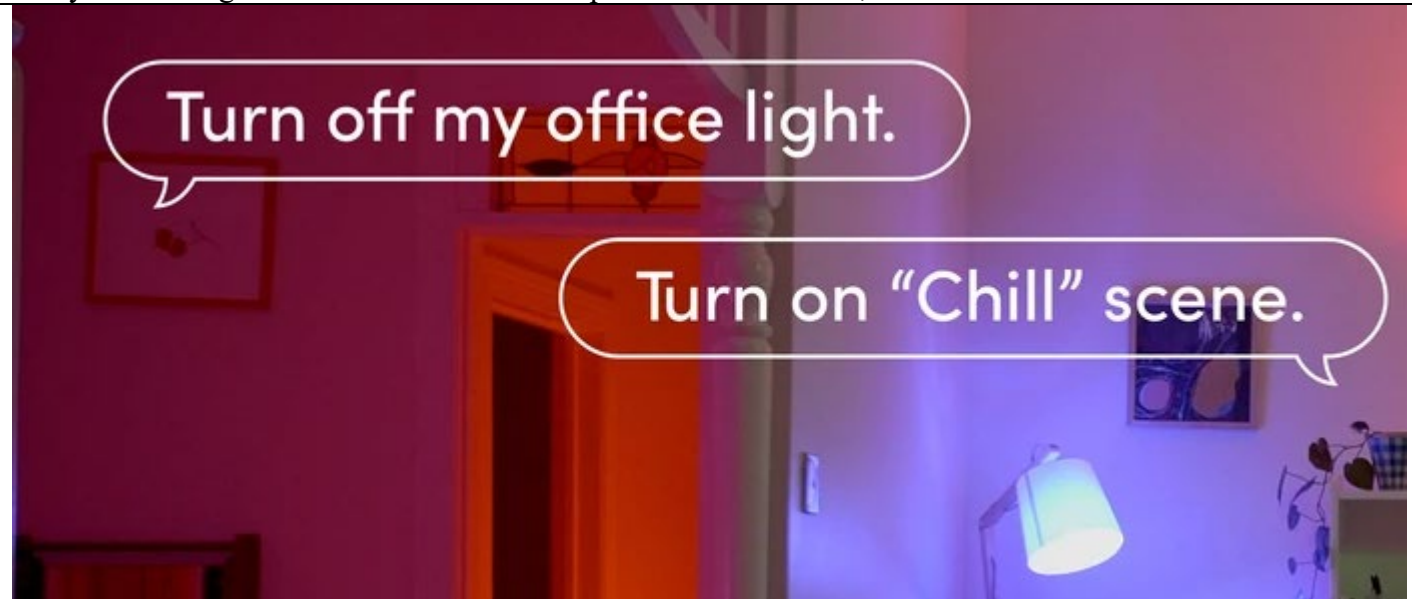
Product Dimensions: 2.48" x 2.48" x 4.53"

See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

As a Wi-Fi 802.11b, g, and n, compliant bulb, the LIFX Color light bulb includes an internet address that identifies the at least one remote system, and is configured to execute at least one pre-selected function.

For example, the LIFX Color light bulb can execute pre-selected functions such as turning on and off the bulb as well as changing the scene of the bulb.

1[d]. "at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and"



See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

For example, Samsung advertises Bixby connects to all Samsung appliances.

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

See, e.g., <https://news.samsung.com/us/injong-rhee-bixby-a-new-way-to-interact-with-your-phone/>

1[d]. "at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and"

Implementing JavaScript Actions

Functions are the implementations of actions. They actually execute the steps of a plan, by making computations or contacting external APIs. You first define inputs and outputs within an **action** first. You then implement functions using JavaScript to provide the necessary logic, operations, and to specify the same inputs and outputs as the action. **Local JavaScript is executed in the cloud on Bixby servers**, while remote JavaScript is executed on your own server.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/actions.js-actions>

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

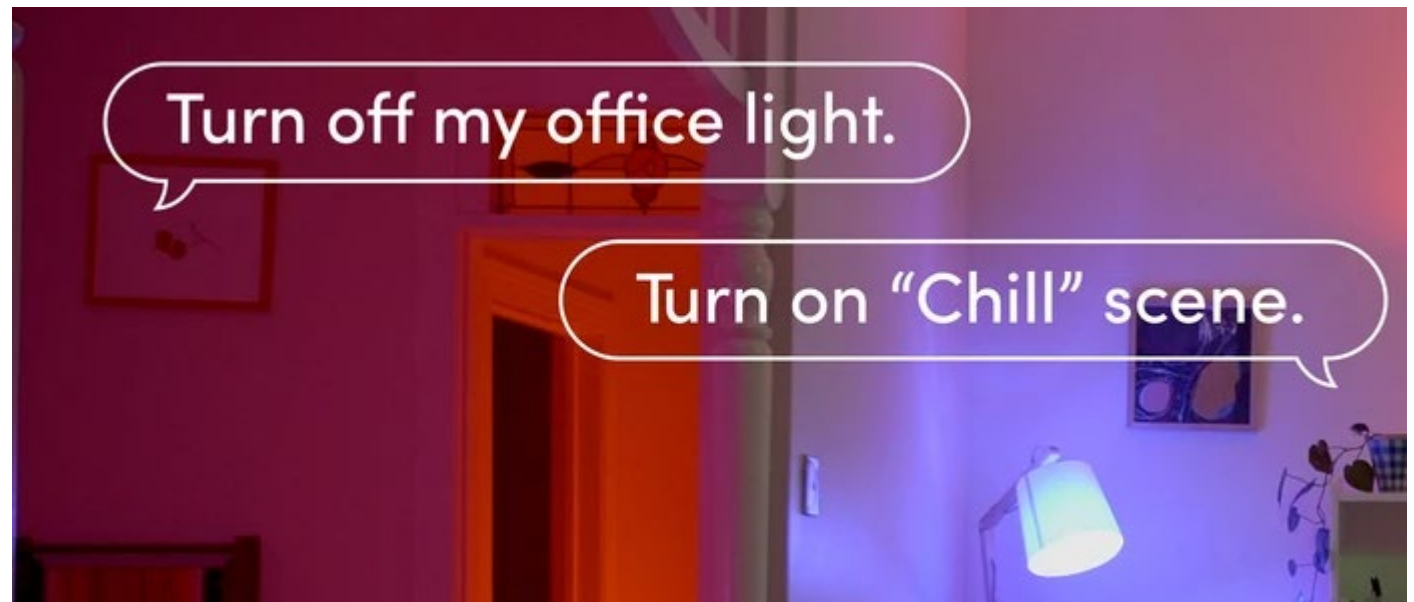
1[e]. "said at least one pre-selected function;"

1[e]. said at least one pre-selected function;

Samsung is infringing, and has infringed, element 1[e] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.

The Samsung Accused Products include said at least one pre-selected function.

For example, as just discussed the remote system, such as the LIFX Color light bulb, includes pre-selected functions such as turning on and off the bulb as well as changing the scene of the bulb.



See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

For example, Samsung advertises Bixby connects to all Samsung appliances.

1[e]. “said at least one pre-selected function;”

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

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See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

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U.S. Patent No. 7,386,455: Claim 1

1[e]. "said at least one pre-selected function;"

	and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.
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1[f]. "providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;"

1[f]. providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;

Samsung is infringing, and has infringed, element 1[f] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set.

The Samsung Accused Products include/practice providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set.

For example, when a user states a speech command, the Samsung Accused Products provide that speech command to the speaker-independent speech recognition engine, and the speech commands correspond to some instruction set. One example is controlling the thermostat. The speech command for controlling the thermostat would correspond to the thermostat control instruction set.

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
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See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

For example, Samsung advertises Bixby connects to all Samsung appliances.

1[f]. "providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;"

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

See, e.g., <https://news.samsung.com/us/injong-rhee-bixby-a-new-way-to-interact-with-your-phone/>

Implementing JavaScript Actions

Functions are the implementations of actions. They actually execute the steps of a plan, by making computations or contacting external APIs. You first define inputs and outputs within an **action** first. You then implement functions using JavaScript to provide the necessary logic, operations, and to specify the same inputs and outputs as the action. Local JavaScript is executed in the cloud on Bixby servers, while remote JavaScript is executed on your own server.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/actions.js-actions>

Do I need Wi-Fi or mobile data to use Bixby?

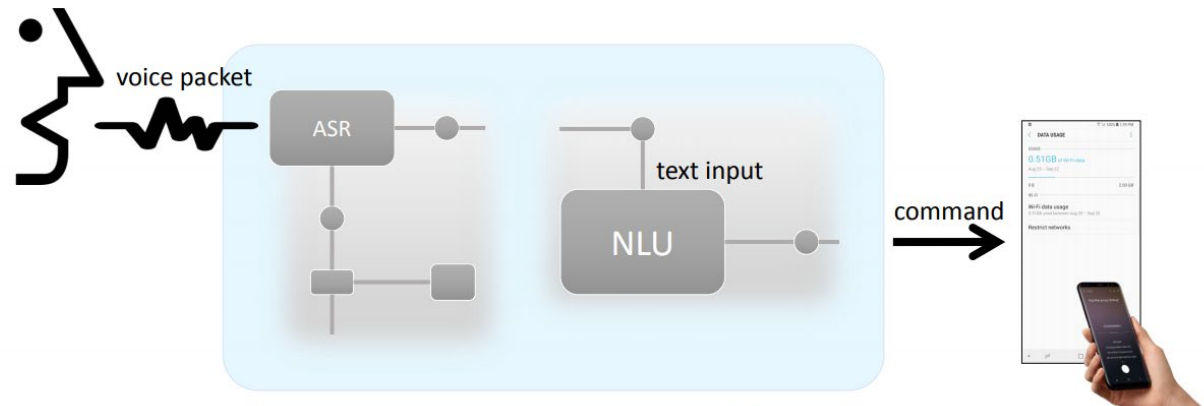
Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

1[f]. "providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;"

Bixby v1.0: Minimalistic View

SAMSUNG



ASR: Automatic Speech Recognition
NLU: Natural Language Understanding

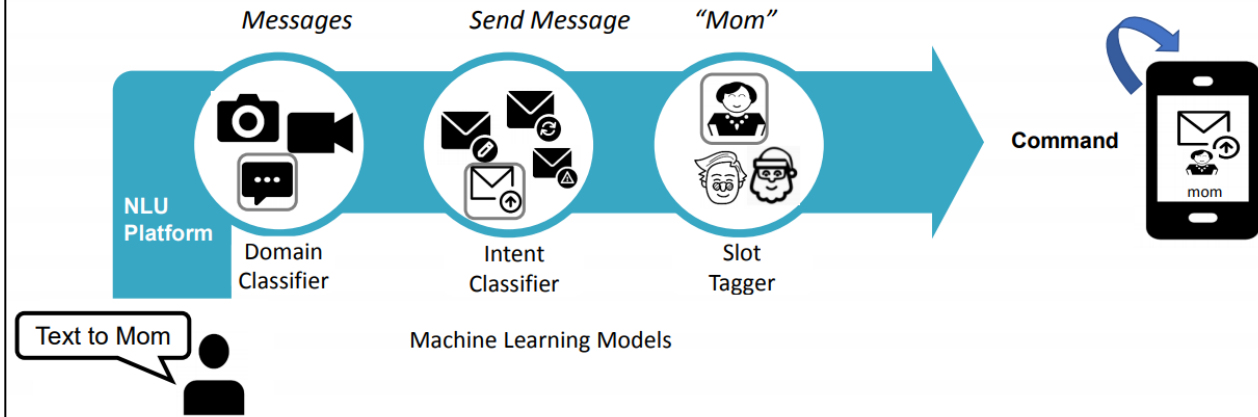
Bixby

See, e.g., Samsung Voice Intelligence v5.5 Presentation at 9 (July 25, 2018), available at https://www.slideshare.net/vinutharani1995/samsung-voice-intelligencev55-107403316?from_action=save

1[f]. “providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;”

Traditional NLU Flow

SAMSUNG



See, e.g., id. at 10.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

1[g]. "said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;"

1[g]. said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;

Samsung is infringing, and has infringed, element 1[g] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set.

The Samsung Accused Products include said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set.

For example, when the speaker-independent speech recognition device receives said speech command, it assigns the speech command to a recognition grammar corresponding to the instruction set. In the case of controlling the thermostat, the Samsung Accused Products would assign the speech command to the thermostat control grammar which corresponds to the thermostat control instruction set. Similarly, in the case of controlling the lights, the Samsung Accused Products would assign the speech command to the lights control grammar which corresponds to the lights control instruction set.

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

1[g]. "said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;"

Overview

Actions on Google lets you extend the functionality of the Google Assistant with **Actions**. Actions let users get things done through a conversational interface that can range from a quick command to turn on some lights or a longer conversation, such as playing a trivia game.

Dialogflow is a conversational platform that lets you design and build Actions by wrapping the functionality of the [Actions SDK](#) and providing additional features such as an easy-to-use IDE, natural language understanding (NLU), machine learning, and more.

To extend the Google Assistant, you build an Action with the following steps.

See, e.g., <https://developers.google.com/assistant/actions/dialogflow>.

Help users interact with technology

Traditional computer interfaces require structured and predictable input to function properly, which makes the use of these interfaces unnatural and sometimes difficult. If end-users can't easily understand this structured input, they have a hard time figuring out what to do. Ideally, your interfaces can infer what your end-users want, based on the natural language they are using.

For example, consider a simple user request like "What's the weather forecast today?". Other end-users might also ask:

- "What's the weather like right now?"
- "What's the temperature going to be in San Francisco tomorrow?"
- "What will the weather be on the 21st?"

Even with these simple questions, you can see that conversational experiences are hard to implement. Interpreting and processing natural language requires a very robust language parser. Dialogflow handles this for you, so you can provide a high quality conversational end-user experience.

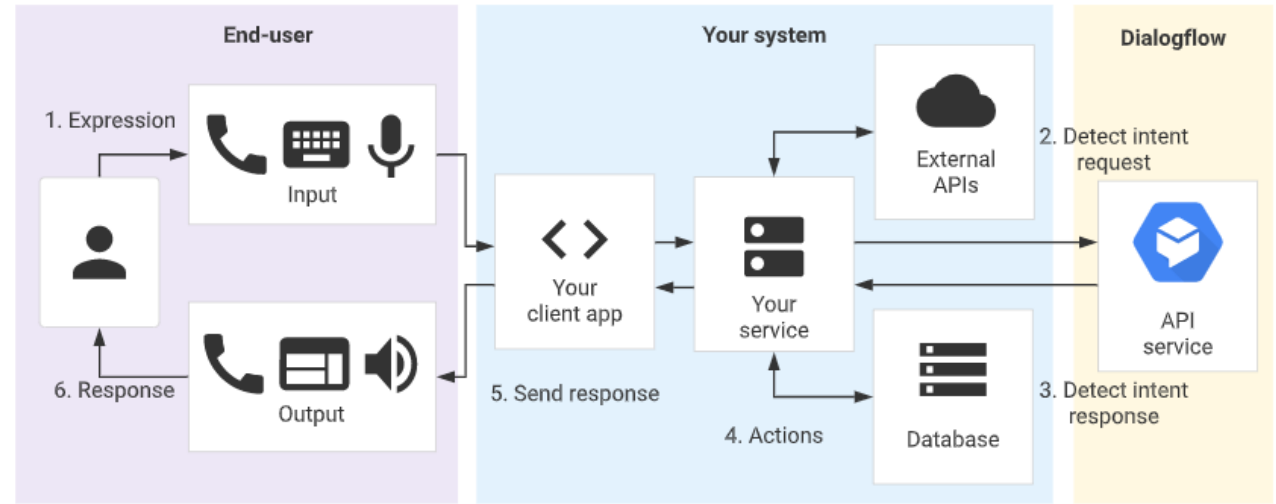
See, e.g., id.

1[g]. "said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;"

API interactions

[SEND FEEDBACK](#)

If you are not using one of the [integration](#) options, you must write code that directly interacts with the end-user. You must also directly interact with Dialogflow's API for each conversational turn to send end-user expressions and receive intent matches. The following diagram shows the processing flow when interacting with the API.

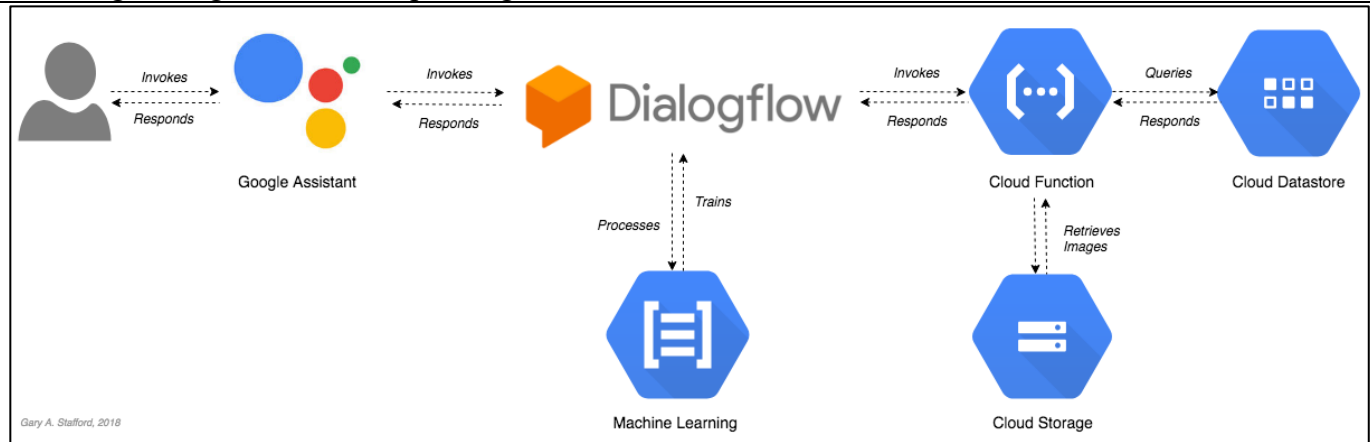


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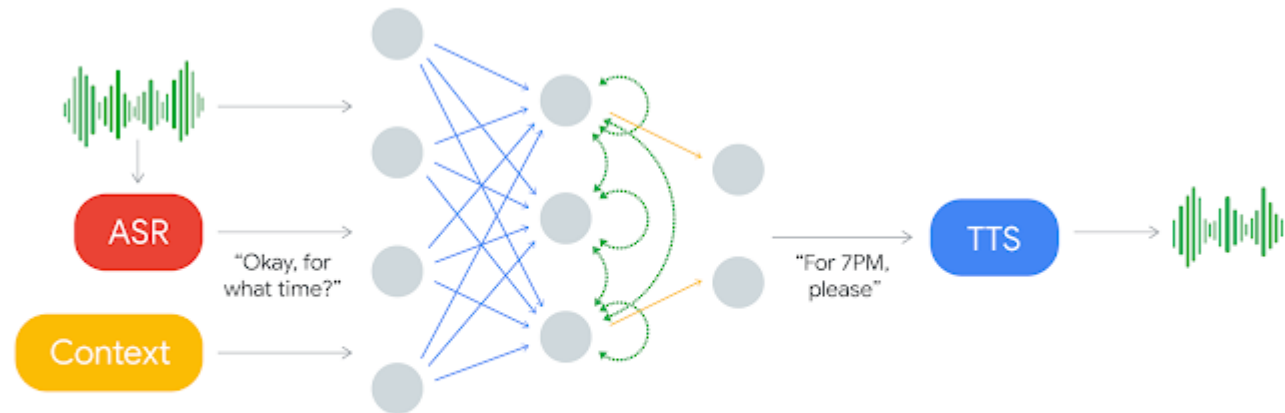
1. The end-user types or speaks an expression.
2. Your service sends this end-user expression to Dialogflow in a detect intent request message.
3. Dialogflow sends a detect intent response message to your service. This message contains information about the matched intent, the action, the parameters, and the response defined for the intent.
4. Your service performs actions as needed, like database queries or external API calls.
5. Your service sends a response to the end-user.
6. The end-user sees or hears the response.

See, e.g., *id.*

1[g]. “said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;”



See, e.g., <https://programmaticponderings.com/2018/08/11/building-serverless-actions-for-google-assistant-with-google-cloud-functions-cloud-datastore-cloud-storage/>.

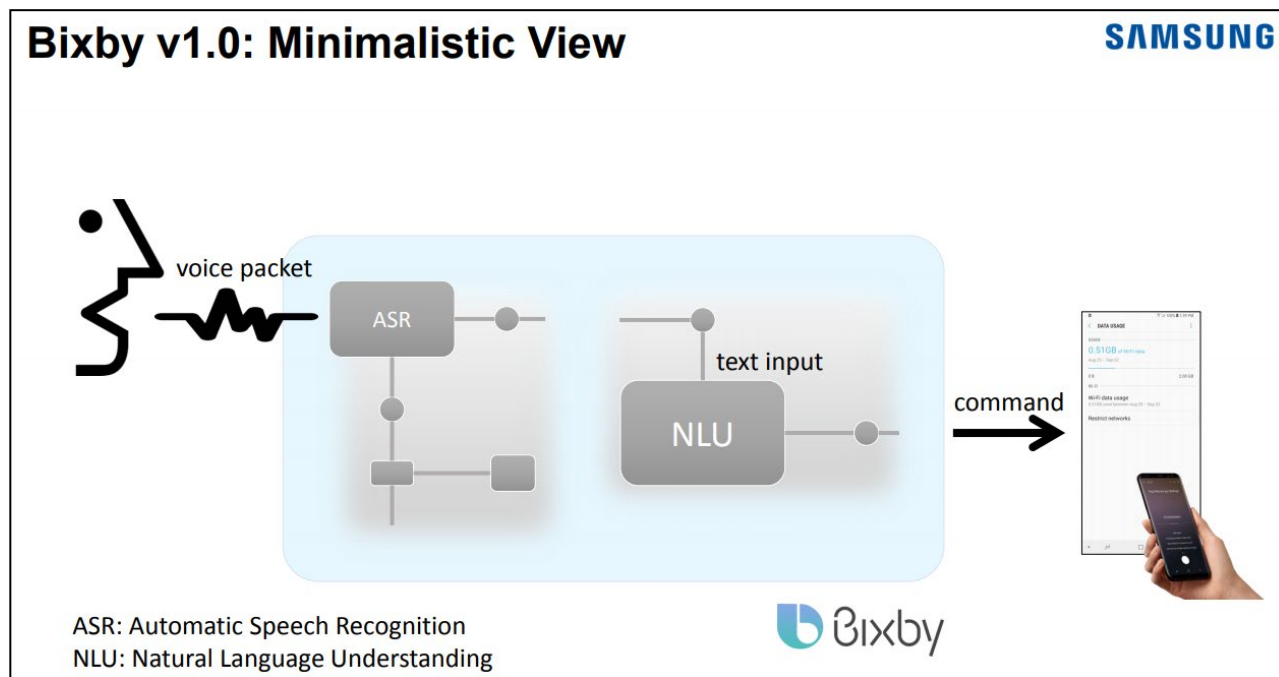


Incoming sound is processed through an ASR system. This produces text that is analyzed with context data and other inputs to produce a response text that is read aloud through the TTS system.

See, e.g., <https://ai.googleblog.com/2018/05/duplex-ai-system-for-natural-conversation.html>.

On information and belief, the Samsung Accused Products in conjunction with Bixby also performs assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set.

1[g]. "said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;"

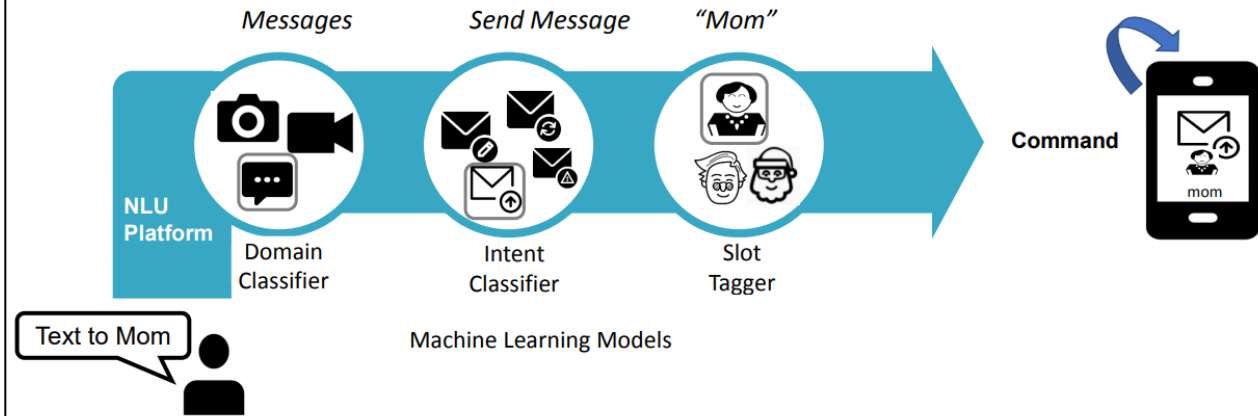


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Traditional NLU Flow

SAMSUNG

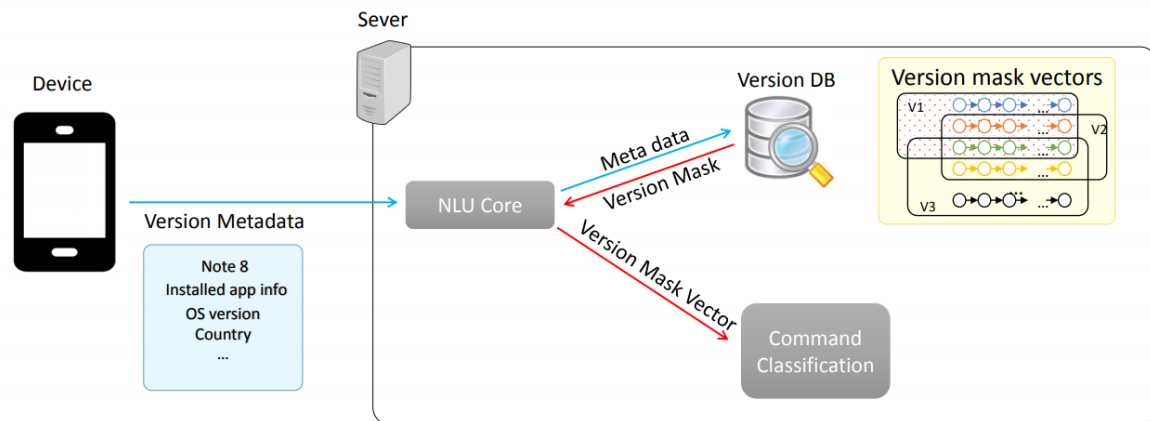


See, e.g., *id.* at 10.

Approach for Variable Output Space

SAMSUNG

Version Management Mechanism for NLU Engine



See, e.g., *id.* at 21.

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--	---

1[h]. "transmitting said speech command to said speaker-independent speech recognition engine;"

1[h]. transmitting said speech command to said speaker-independent speech recognition engine;

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The Samsung Accused Products include/practice transmitting said speech command to said speaker-independent speech recognition engine.

For example, when the Samsung Accused Products receive the speech command, the command is sent to the speaker-independent speech recognition engine.

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Use your Google Assistant

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For example, you can say:

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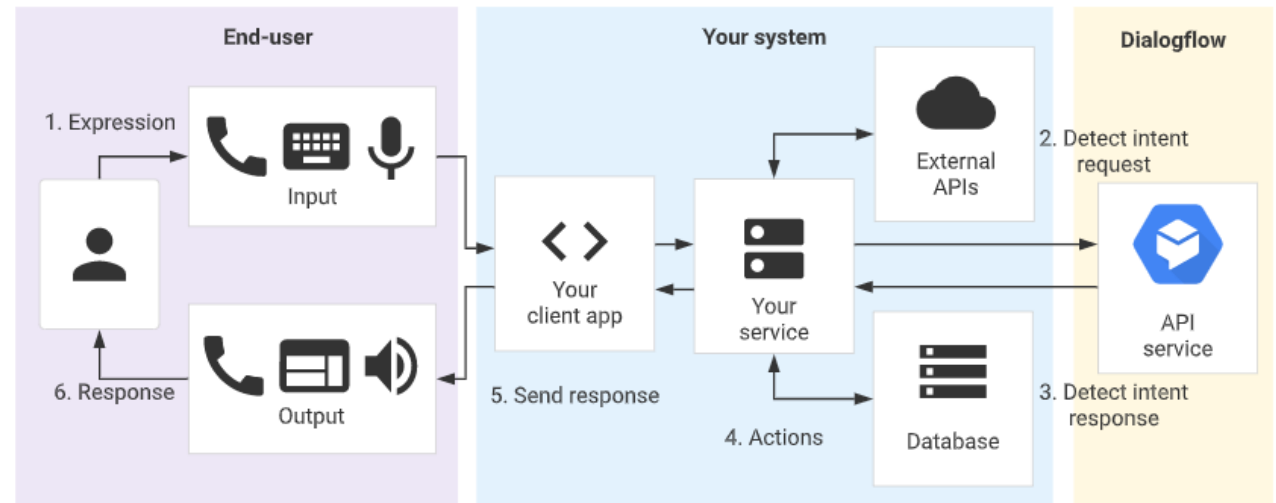
See, e.g., id.

1[h]. "transmitting said speech command to said speaker-independent speech recognition engine;"

API interactions

[SEND FEEDBACK](#)

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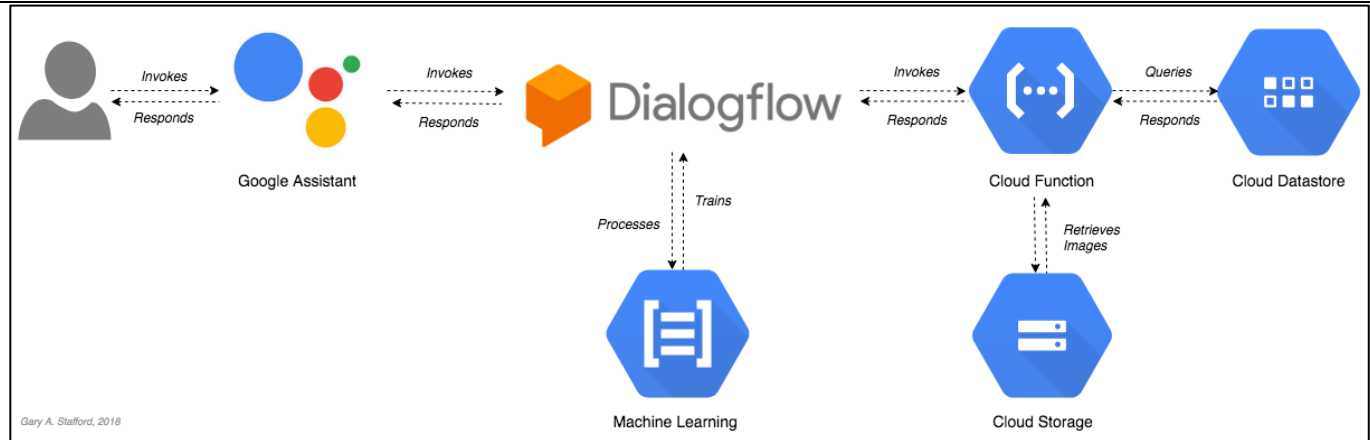


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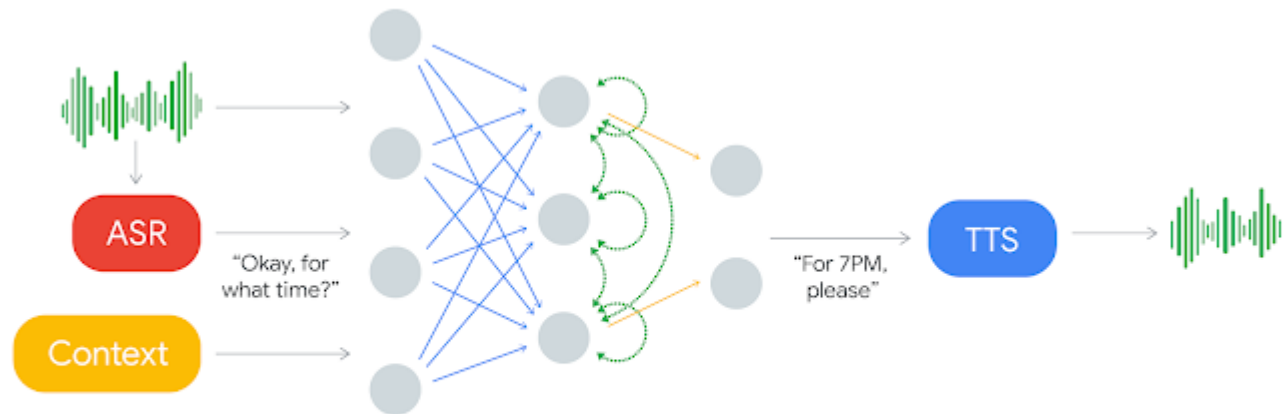
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See, e.g., *id.*

1[h]. “transmitting said speech command to said speaker-independent speech recognition engine;”



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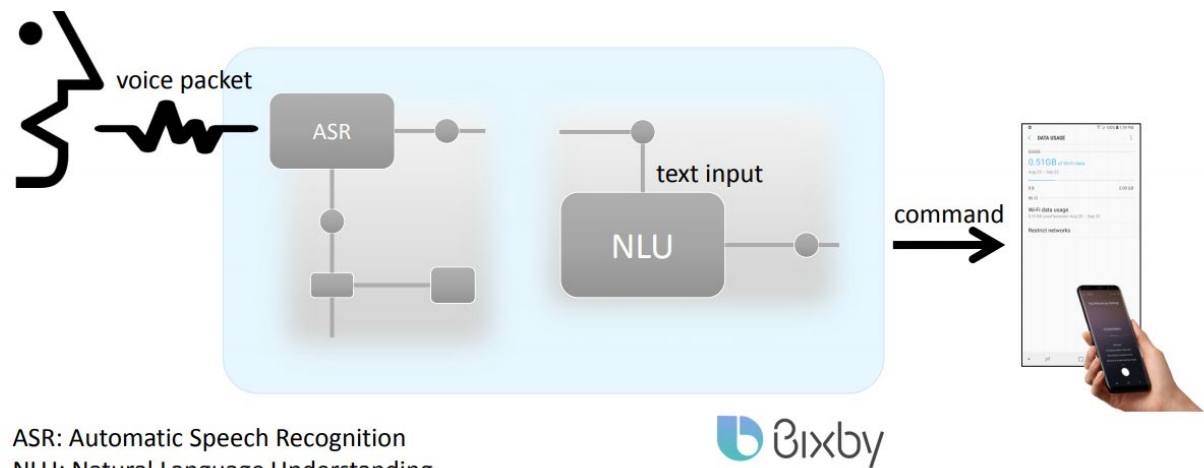
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1[h]. “transmitting said speech command to said speaker-independent speech recognition engine;”

Bixby v1.0: Minimalistic View

SAMSUNG



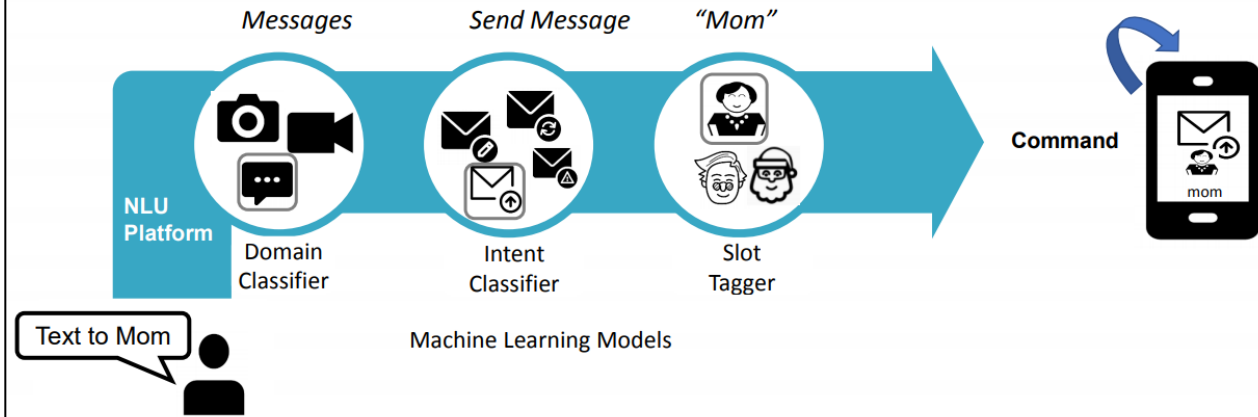
ASR: Automatic Speech Recognition
NLU: Natural Language Understanding

See, e.g., Samsung Voice Intelligence v5.5 Presentation at 9 (July 25, 2018), available at https://www.slideshare.net/vinutharani1995/samsung-voice-intelligencev55-107403316?from_action=save

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Traditional NLU Flow

SAMSUNG



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1[i]. "said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;"

1[i]. said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;

Samsung is infringing, and has infringed, element 1[i] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command.

The Samsung Accused Products include said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command.

For example, when the speaker-independent speech recognition engine receives the speech command it selects the corresponding recognition grammar. In the case of controlling the thermostat, the Samsung Accused Products would select the corresponding thermostat control grammar. Similarly, in the case of controlling the lights, the Samsung Accused Products would select the corresponding lights control grammar.

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Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

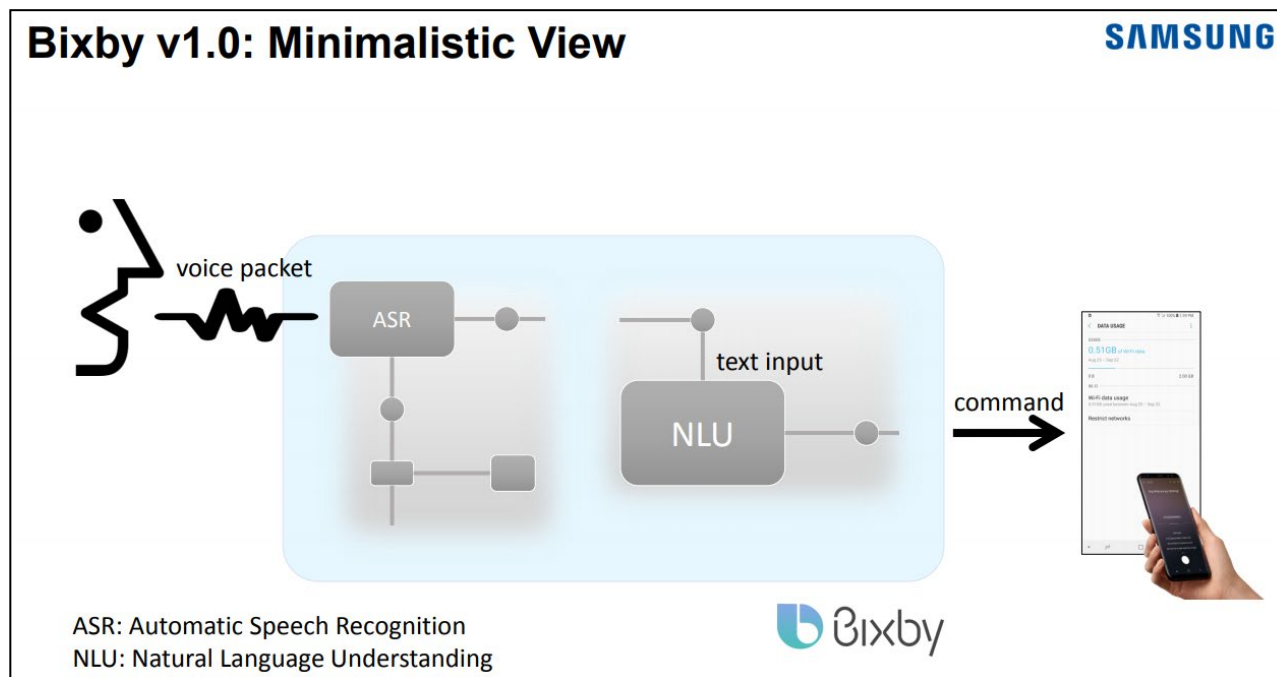
- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

Other speech commands such as controlling the lights would correspond to a different instruction set and different grammar.

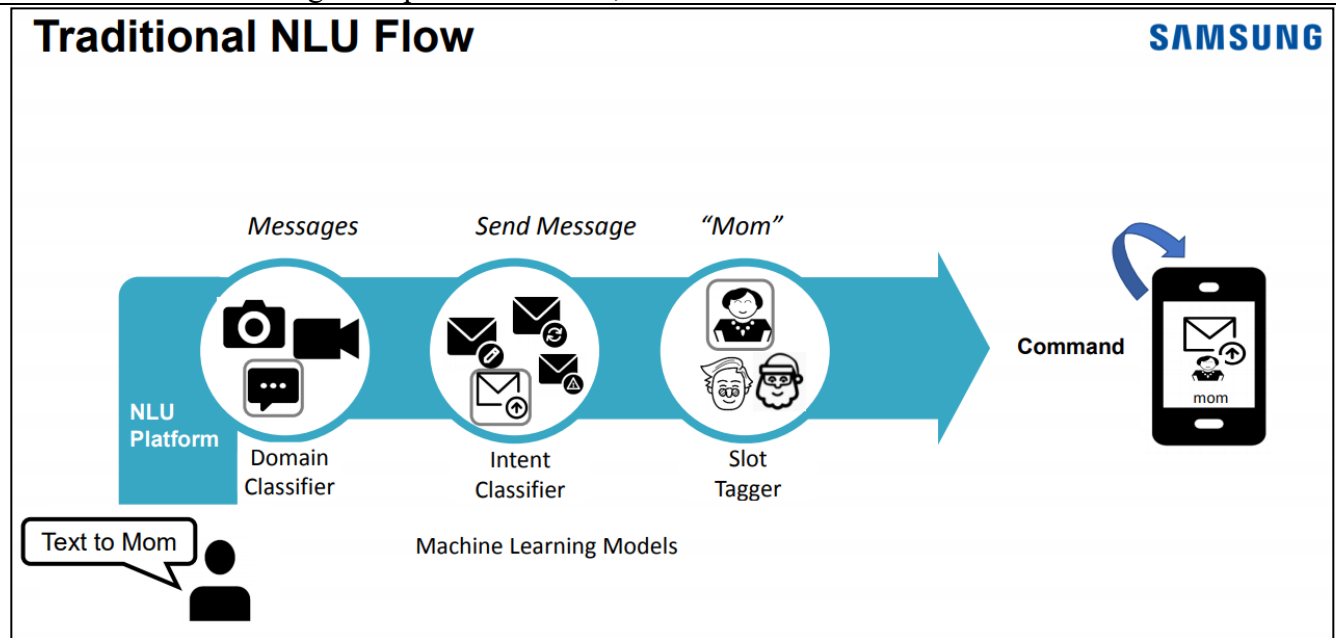
On information and belief, the Samsung Accused Products in conjunction with Bixby also performs receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;

1[i]. “said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;”



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1[j]. "said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine;"

1[j]. said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine;

Samsung is infringing, and has infringed, element 1[j] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine.

The Samsung Accused Products include said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine.

For example, in the Samsung Accused Products, the computer retrieves the instruction set corresponding to the recognition grammar selected by the speaker-independent speech recognition engine. In the case of controlling the thermostat, the computer would retrieve the thermostat control instruction set corresponding to the thermostat control grammar selected by the speaker-independent speech recognition engine. Similarly, in the case of controlling the lights, the computer would retrieve the lights control instruction set corresponding to the lights control grammar selected by the speaker-independent speech recognition engine.

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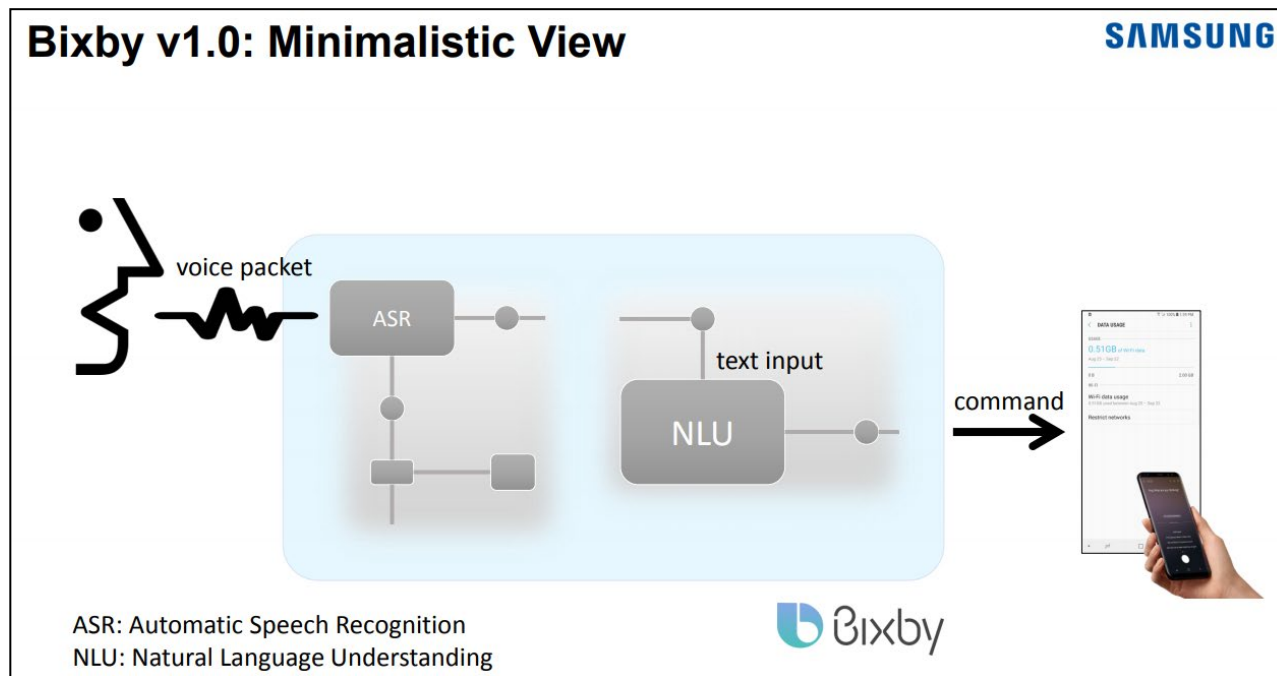
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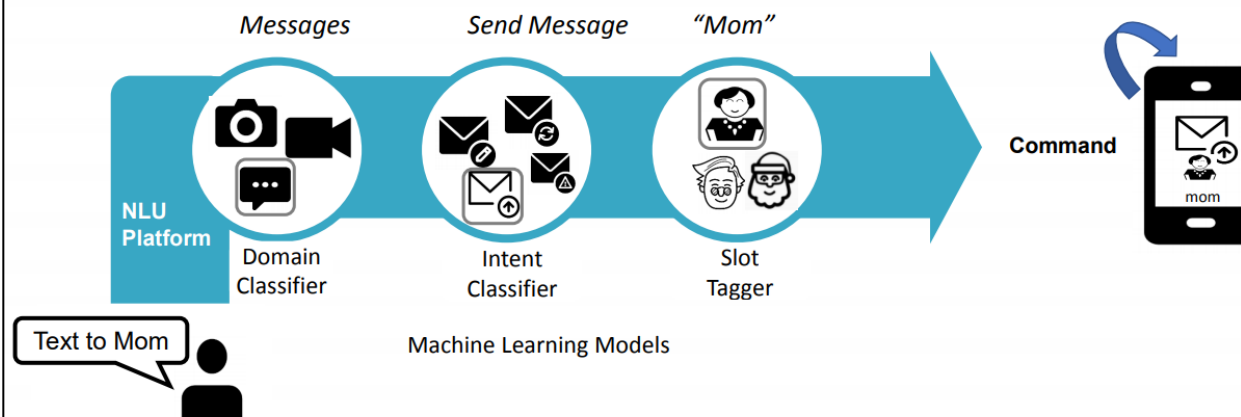


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Traditional NLU Flow

SAMSUNG



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1[k]. "said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and"

1[k]. said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and

Samsung is infringing, and has infringed, element 1[k] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.

The Samsung Accused Products include said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.

For example, because the LIFX Color light bulb is compatible with the Samsung Accused Products, the computer of the Samsung Accused Products can access the LIFX Color light bulb, which is at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function, such as turning the LIFX Color light bulb on or off or setting the scene.



LIFX Color

Shop now >

See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

1[k]. "said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and"

Product Specifications

Brightness: 1100 Lumens (75W equivalent)

Wattage Use: 11.5 Watts at full brightness

Wattage on Standby: <0.5W

Voltage Range: AC 100-240V 50/60 Hz

Color Temperature: 1500K - 9000K

Beam Angle: 210°

Dimming: Software dimming 1% - 100%

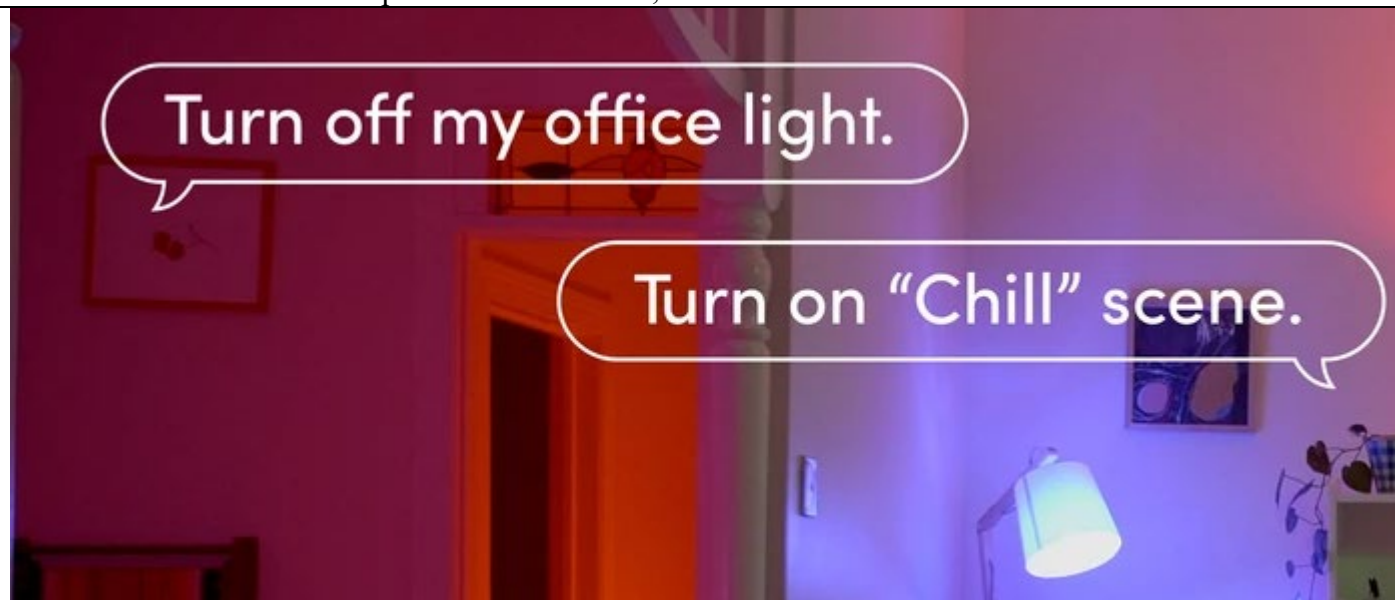
Wi-Fi Router Requirement: 802.11b,g,n standards compliant

Security: WPA, WPA2

Product Dimensions: 2.48" x 2.48" x 4.53"

See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

1[k]. "said computer accessing said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and"



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Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

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1[1]. “said at least one remote system executing said at least one pre-selected function.”

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Samsung is infringing, and has infringed, element 1[1] by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device that includes the step of said at least one remote system executing said at least one pre-selected function.

The Samsung Accused Products include said at least one remote system executing said at least one pre-selected function.

For example, the LIFX Color light bulb will turn the bulb off when the Samsung Accused Products instruct it to do so.



LIFX Color

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See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

1[1]. "said at least one remote system executing said at least one pre-selected function."

Product Specifications

Brightness: 1100 Lumens (75W equivalent)

Wattage Use: 11.5 Watts at full brightness

Wattage on Standby: <0.5W

Voltage Range: AC 100-240V 50/60 Hz

Color Temperature: 1500K - 9000K

Beam Angle: 210°

Dimming: Software dimming 1% - 100%

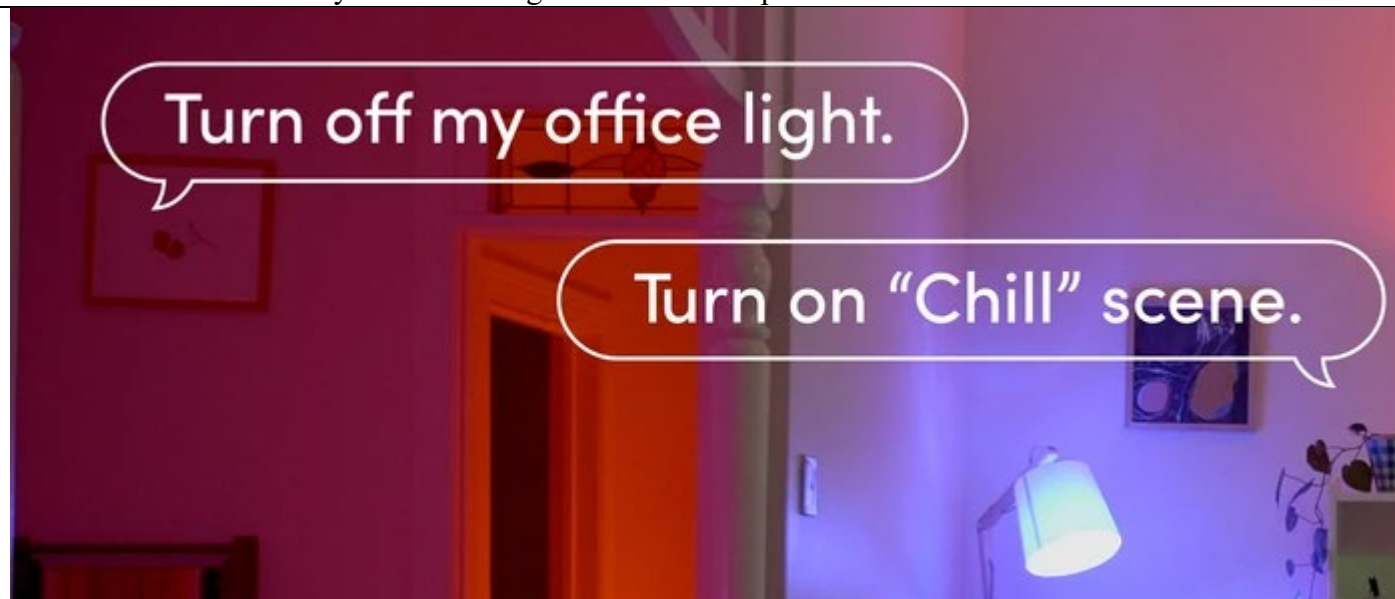
Wi-Fi Router Requirement: 802.11b,g,n standards compliant

Security: WPA, WPA2

Product Dimensions: 2.48" x 2.48" x 4.53"

See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

1[1]. “said at least one remote system executing said at least one pre-selected function.”



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For example, Samsung advertises Bixby connects to all Samsung appliances.

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

See, e.g., <https://news.samsung.com/us/injong-rhee-bixby-a-new-way-to-interact-with-your-phone/>

1[1]. “said at least one remote system executing said at least one pre-selected function.”

Implementing JavaScript Actions

Functions are the implementations of actions. They actually execute the steps of a plan, by making computations or contacting external APIs. You first define inputs and outputs within an **action** first. You then implement functions using JavaScript to provide the necessary logic, operations, and to specify the same inputs and outputs as the action. **Local JavaScript is executed in the cloud on Bixby servers**, while remote JavaScript is executed on your own server.

See, e.g., <https://bixbydevelopers.com/dev/docs/dev-guide/developers/actions.js-actions>

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

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At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

"2. The method of claim 1 wherein said at least one remote system comprises a home-based system."

2. The method of claim 1 wherein said at least one remote system comprises a home-based system.

Samsung is infringing, and has infringed, claim 2 by performing the method of claim 1 wherein said at least one remote system comprises a home-based system.

The Samsung Accused Products in conjunction with Google Assistant meets this limitation when they are used for their intended and marketed purpose by Samsung, Google and/or third parties.

For, example the LIFX Color light bulb, which is the remote system described in claim 1, can be used at home as a home-based system.



LIFX Color

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"2. The method of claim 1 wherein said at least one remote system comprises a home-based system."

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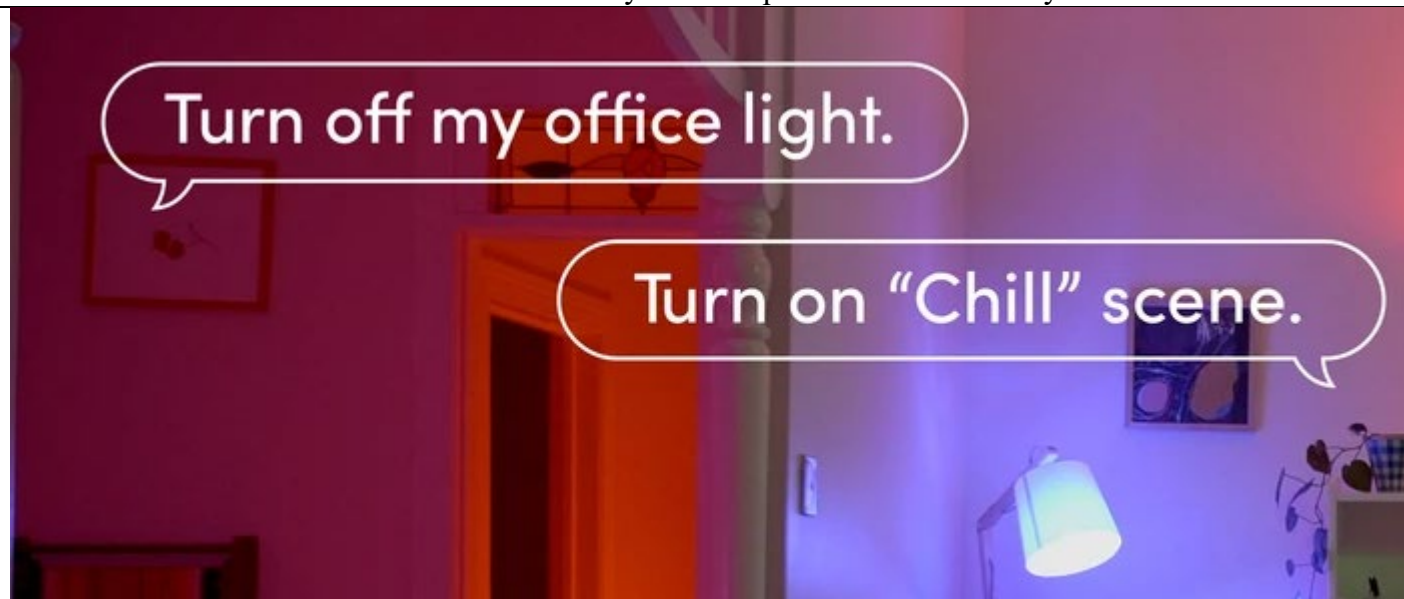
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"2. The method of claim 1 wherein said at least one remote system comprises a home-based system."



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"2. The method of claim 1 wherein said at least one remote system comprises a home-based system."

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"3. The method of claim 2 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system."

3. The method of claim 2 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.

Samsung is infringing, and has infringed, claim 3 by performing the method of claim 2 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.

The Samsung Accused Products in conjunction with Google Assistant meets this limitation when it is used for its intended and marketed purpose by Samsung, Google and/or third parties.

For example, the LIFX Color light bulb is indoor lighting and selected from the group consisting of outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.



LIFX Color

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See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

"3. The method of claim 2 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system."

Product Specifications

Brightness: 1100 Lumens (75W equivalent)

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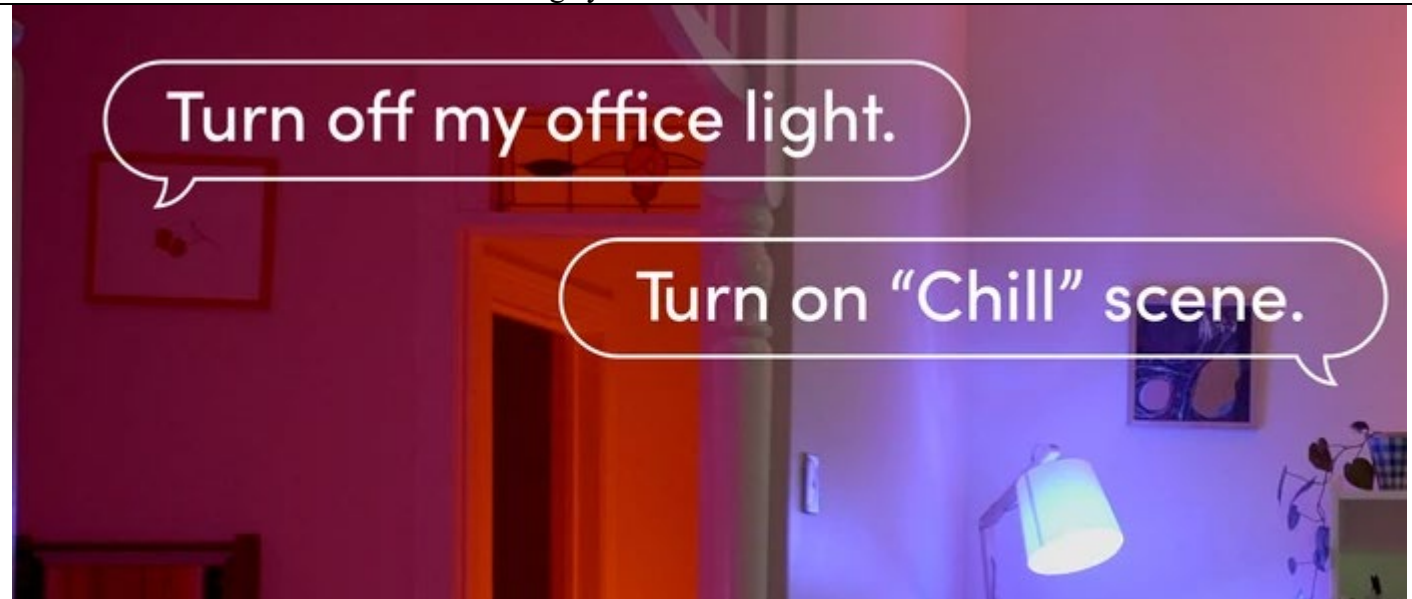
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Security: WPA, WPA2

Product Dimensions: 2.48" x 2.48" x 4.53"

See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

"3. The method of claim 2 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system."



See, e.g., <https://www.lifx.com/products/lifx-color-a19?variant=39834390397109>.

Starting with our smartphones, Bixby will be gradually applied to all our appliances. In the future you would be able to control your air conditioner or TV through Bixby. Since Bixby will be implemented in the cloud, as long as a device has an internet connection and simple circuitry to receive voice inputs, it will be able to connect with Bixby. As the Bixby ecosystem grows, we believe Bixby will evolve from a smartphone interface to an interface for your life.

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Working With Bixby

The new Bixby supports SmartThings device integrations.

 Currently available with Galaxy Note 9 and SmartThings app 1.7.19 or later.

The following sample use cases demonstrate the Bixby experience:

- If you connect your air conditioner to SmartThings Cloud, you can control the air conditioner through speech by saying "Raise the temperature of the air conditioner".
- If you connect your washer machine to SmartThings Cloud, you can also control it through speech by saying "Start washing in the washer" and when you had made a TV, you can speak "TV Channel up".
- You may also control your television through Bixby by saying "Change the TV channel up" in order to navigate to the next available TV channel.

It is simple to integrate the Bixby AI assistant with your SmartThings devices.

1. Self-publish your device and connect the device to the SmartThings app using the Developer Mode.
2. Bixby automatically detects your devices and understands the SmartThings capabilities.
3. You can say, "Hi Bixby, turn on the light". You can also press the Bixby button and say, "Turn on the light".

The following table lists examples of IoT devices, features, and capabilities built into the New Bixby. Capabilities are not restricted by device.

For a full list of Capabilities, visit the [Capabilities Reference](#).

Available at <https://developer-preview.smarthings.com/docs/advanced/working-with-bixby/>.

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"4. The method of claim 3 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature."

<p>4. The method of claim 3 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p>	<p>Samsung is infringing, and has infringed, claim 4 by performing the method of claim 3 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p> <p>The Samsung Accused Products in conjunction with Google Assistant meets this limitation when it is used for its intended and marketed purpose by Samsung, Google and/or third parties.</p> <p>For example, the at least one pre-selected function is turning indoor lighting on and off and is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p>
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"4. The method of claim 3 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature."



LIFX Color

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See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

"4. The method of claim 3 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature."

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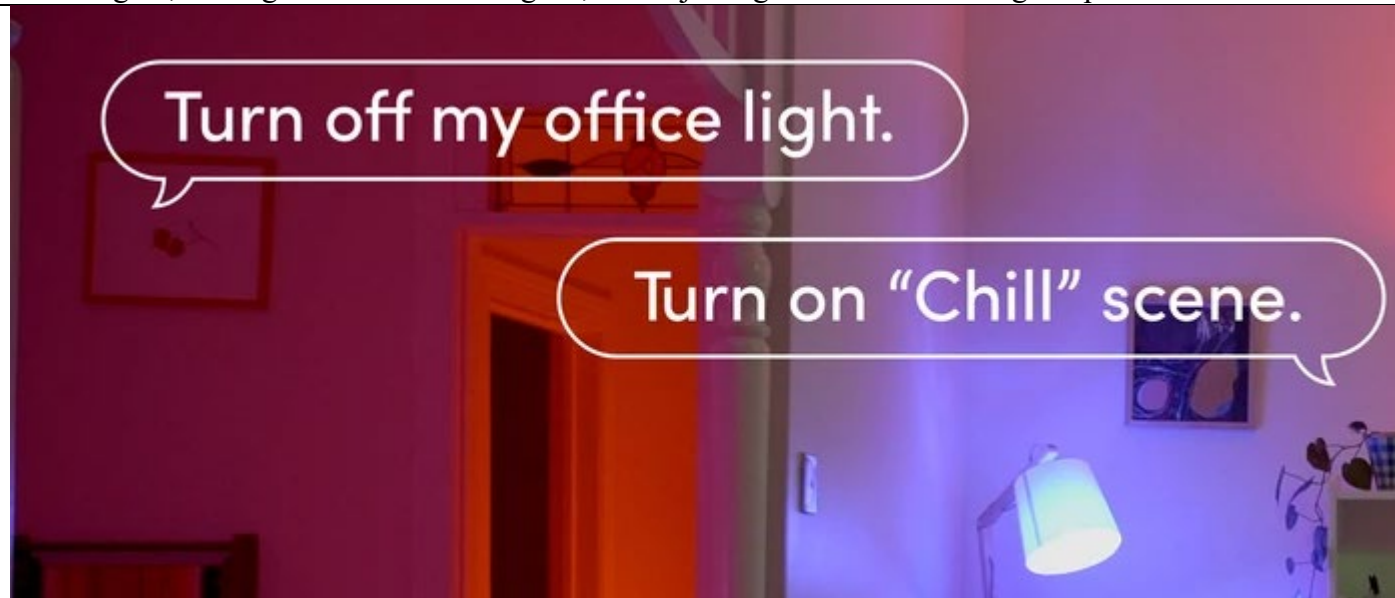
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Product Dimensions: 2.48" x 2.48" x 4.53"

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1. Self-publish your device and connect the device to the SmartThings app using the Developer Mode.
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"5. The method of claim 1 wherein said at least one remote system comprises an office-based system."

5. The method of claim 1 wherein said at least one remote system comprises an office-based system.

Samsung is infringing, and has infringed, claim 5 by performing the method of claim 1 wherein said at least one remote system comprises an office-based system.

The Samsung Accused Products in conjunction with Google Assistant meets this limitation when it is used for its intended and marketed purpose by Samsung, Google and/or third parties.

For example, the LIFX Color light bulb can be installed in an office-based system and controlled in the same manner as if it were a home-based system.



LIFX Color

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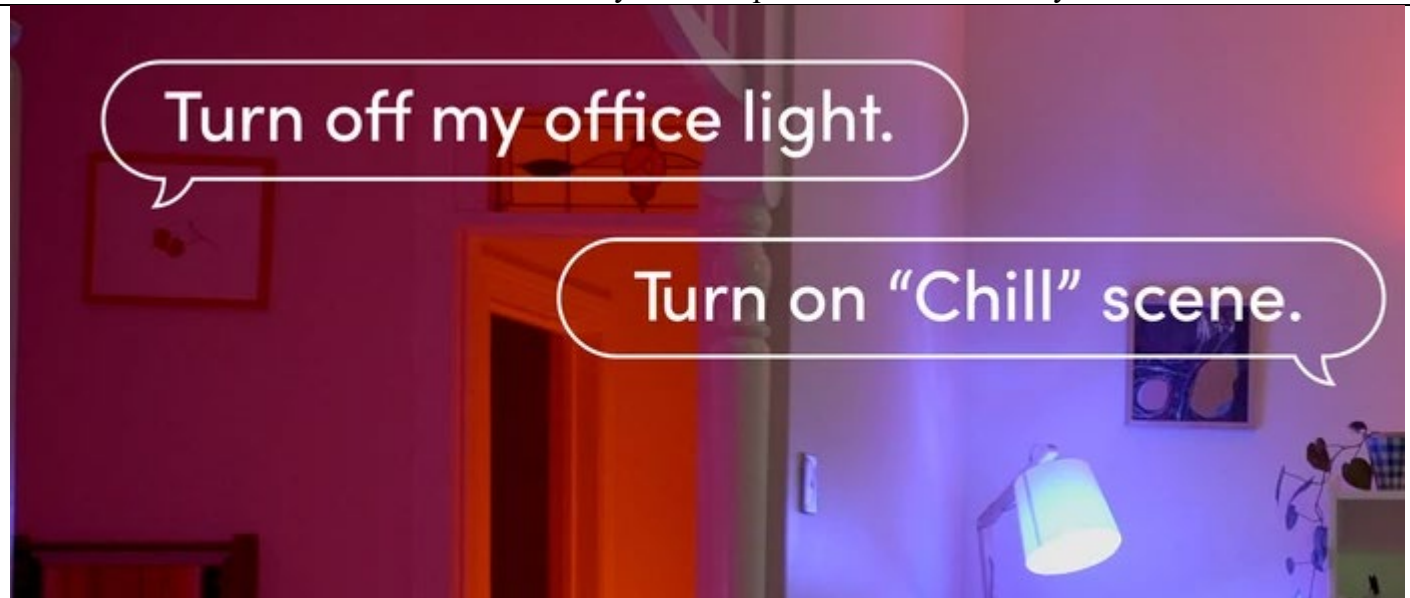
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"6. The method of claim 5 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system."

<p>6. The method of claim 5 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.</p>	<p>Samsung is infringing, and has infringed, claim 6 by performing the method of claim 5 wherein said system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.</p> <p>The Samsung Accused Products in conjunction with Google Assistant meets this limitation when it is used for its intended and marketed purpose by Samsung, Google and/or third parties.</p> <p><i>See claim 3.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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"7. The method of claim 6 wherein at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature."

<p>7. The method of claim 6 wherein at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p>	<p>Samsung is infringing, and has infringed, claim 7 by performing the method of claim 6 wherein at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p> <p>The Samsung Accused Products in conjunction with Google Assistant meet this limitation when they are used for their intended and marketed purpose by Samsung, Google and/or third parties.</p> <p><i>See claim 4.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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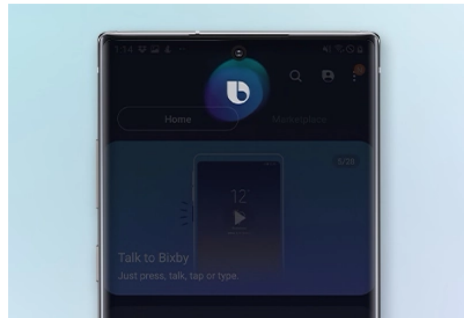
"8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service."

<p>8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service.</p>	<p>Samsung is infringing, and has infringed, claim 8 by performing the method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service.</p> <p>The Samsung Accused Products in conjunction with Google Assistant meet this limitation when they are used for their intended and marketed purpose by Samsung, Google and/or third parties.</p> <p>On information and belief, there is no evidence to indicate that the relevant operation of Google Assistant and/or Bixby on the Samsung Accused Products is different from described herein. Rather, public information indicates that Bixby "essentially works the same way" as the Google Assistant.</p> <p>How Bixby works</p> <p>Bixby should also be able to understand natural language: this means that you don't need to use set phrases, but you can give incomplete information and Bixby can interpret and take action. Natural language recognition has been key to the rise of Alexa, for example, and is now a key element of modern AI.</p> <p>The service essentially works in the same way as other AI solutions like Google Assistant or Amazon Alexa in that it listens to your voice, interprets the information, and returns the resulting action.</p> <p>available at https://www.pocket-lint.com/phones/news/samsung/140128-what-is-bixby-samsungs-assistant-explained-and-how-to-use-it.</p>
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"8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service."

Change the AI assistant on your Galaxy phone

Last Update date : Oct 03, 2020



Bixby and Google Assistant are both handy AI programs that you can use on your phone, but you're not limited to those two - you can even set Samsung Internet as a phone assistant. Each assistant is awesome in its own way, but Bixby is made specifically for Galaxy phones and has its own special features. However, you can change the default assistant on your phone if you'd like.

available at <https://www.samsung.com/ca/support/mobile-devices/galaxy-phone-change-the-ai-assistant/>

What to know about Bixby

While Bixby is similar to Google Assistant (which is also available on Samsung devices), Bixby is found exclusively on Samsung devices — it's unavailable on any other Android brand. Samsung has included it on every new Samsung device, starting with the Galaxy S8 in 2017. In addition to phones and tablets, it's built into the Samsung Galaxy Watch and is the voice assistant in the Samsung Galaxy Home, a smart speaker that Samsung announced in 2018 but has still not been released.

available at <https://www.businessinsider.com/bixby>.

"8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service."

Bixby is an [artificial intelligence](#) (AI) system developed by Samsung Electronics to make [device](#) interaction easier and to avoid complexity of fully featured devices. Bixby is Samsung's very own virtual assistant and the electronics giant's new effort to offer an intelligent agent to compete with Google Assistant, Apple's Siri, and Amazon's Alexa. Like other voice-based virtual assistants out there, Bixby uses neural nets and [deep learning](#) to interpret what it should do based on what a person says or asks. It uses natural language processing to understand how we talk and what we mean. It basically means anyone with a Samsung smartphone or a Samsung TV will be able to use Bixby for a [wide](#) variety of tasks, queries, and capabilities, just like Google Assistant. Bixby is a major overhaul of the S Voice, the bundled voice command application that comes built-in with the Samsung Galaxy S5 and other devices.

– While both Google Assistant and Bixby have similar smart assistant features, Google Assistant is uniquely integrated with the Google Home ecosystem and is available for Android and iOS devices (limited functionality on iOS), whereas Bixby is specific to Samsung devices and apps. Bixby is tied to the Samsung's SmartThings hub and has

While both Google Assistant and Bixby are pretty much the same, when it comes to basic functionalities like executing voice commands to perform a wide range of tasks, Google Assistant is tied to the Google Home ecosystem, whereas Bixby is limited to the Samsung universe. Google Assistant also uses other services from the Alphabet/Google Company, as available at <http://www.differencebetween.net/technology/difference-between-google-assistant-and-bixby/>.

If you are using a Samsung device for the first time, you might be surprised to learn that Samsung has its own voice assistant similar to Apple's Siri, Amazon's Alexa, and [Google Assistant](#). It's called Bixby and is built into many Samsung devices. It works like any of those other voice assistants, so you can use it to answer questions, perform common commands, and automate tasks that you frequently perform with your phone.

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"8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service."

First of all, both Google Assistant and Bixby supports voice and keyboard input to ask queries and questions. With Google Assistant, you can send a message, open an app, check weather, and even send a WhatsApp message.

available at <https://techwiser.com/bixby-vs-google-assistant-comparison>.

See also, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8942094/>;
<https://www.computerworld.com/article/3294987/how-voice-technology-will-re-shape-business.html>

For example, on information and belief, the Samsung Accused Products poll the smart-home devices to determine if they are operational or out of service. This is evidenced by the fact that the Samsung Accused Products can get notifications for device state changes.

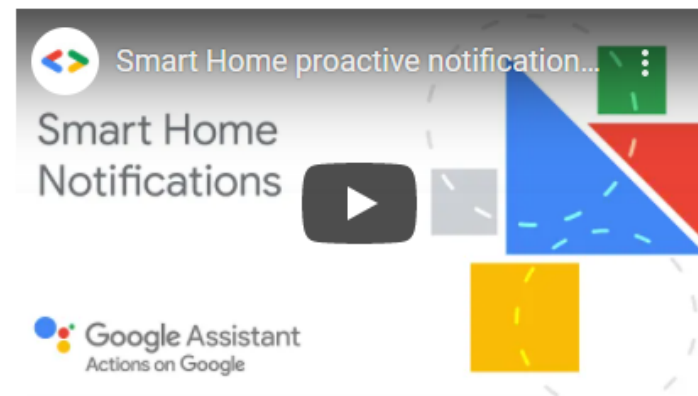
Notifications for smart home Actions

Notifications allow your smart home Action to use Google Assistant to communicate with users about important device-related events or changes. You can implement notifications to alert users to timely device events, for example when someone is at the door, or to report on a requested device state change, such as when a door lock bolt has been successfully engaged or has jammed.

Your smart home Action can send the following types of notifications to users:

- **Proactive notifications:** Alerts the user of a smart home device event without any preceding user requests to their devices, such as the doorbell ringing.

See, e.g., <https://developers.google.com/assistant/smarthome/develop/notifications>.



"8. The method of claim 1 further comprising the step of periodically polling said at least one remote system to determine whether said remote system is operational or out of service."

Events that trigger notifications

When device events occur, your Action fulfillment sends a notification request to Google. The device traits that your smart home Action supports determines what types of notification events are available and the data you can include in those notifications.

The following traits support proactive notifications:

Trait	Events
ObjectDetection	Objects detected by the device, such as when a recognized face is detected at the door. For example: <i>"Alice and Bob are at the front door."</i>
RunCycle	Device completes a cycle. For example: <i>"The washing machine cycle has completed."</i>
SensorState	Device detects a supported sensor state. For example: <i>"The smoke detector detects smoke."</i>

See, e.g., <https://developers.google.com/assistant/smarthome/develop/notifications>.

The following traits support follow-up responses:

Trait	Events
LockUnlock	Completion status and state change following execution of the <code>action.devices.commands.LockUnlock</code> device command. For example: <i>"The front door has been locked"</i> or <i>"The front door is jammed."</i>
NetworkControl	Completion status and state change following execution of the <code>action.devices.commands.TestNetworkSpeed</code> device command. For example: <i>"Your network speed test has finished. The download speed on the office router is currently 80.2 Kbps, and the upload speed is 9.3 Kbps."</i>
OpenClose	Completion status and state change following execution of the <code>action.devices.commands.OpenClose</code> device command. For example: <i>"The front door has opened"</i> or <i>"The front door couldn't be opened."</i>

See, e.g., <https://developers.google.com/assistant/smarthome/develop/notifications>.

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	manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.
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9[preamble]. “9. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:”

<p>9[preamble]. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:</p>	<p>To the extent that the preamble is a limitation, Samsung is infringing, and has infringed, by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone comprising the elements of claim 9 listed thereafter.</p> <p>The Samsung Accused Products include a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone.</p> <p>For example, the following exemplary documents provide support to demonstrate the Samsung Accused Products are systems for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone.</p> <p>Andrew Nusca, <i>How voice recognition will change the world</i> (Nov. 4, 2011), available at https://www.zdnet.com/article/how-voice-recognition-will-change-the-world/.</p> <p>Gene Munster, Will Thompson, <i>Annual Digital Assistant IQ Test – Siri, Google Assistant, Alexa, Cortana</i> (Jul. 25, 2018), available at https://loupventures.com/annual-digital-assistant-iq-test-siri-google-assistant-alexa-cortana/.</p> <p>Extending the assistant (Jan. 29, 2019), available at https://developers.google.com/actions/extending-the-assistant.</p> <p>Voice Browsing (Jan. 29, 2019), available at https://www.w3.org/standards/webofdevices/voice.</p> <p>How Search organizes information (Jan. 29, 2019), available at https://www.google.com/search/howsearchworks/crawling-indexing/.</p> <p>Winston Chen, Speaking to the Web with the Web Speech API (Aug. 17, 2017), available at https://medium.com/samsung-internet-dev/speaking-to-the-web-with-the-web-speech-api-980d12d34244.</p> <p>Dieter Bohn, Here’s what we know Samsung’s Bixby assistant can do on the Galaxy S8 (Mar. 29, 2017), available at https://www.theverge.com/2017/3/29/15097744/samsung-bixby-galaxy-s8-assistant-vs-siri-alexa-android.</p> <p>On information and belief, there is no evidence to indicate that the relevant operation of Google Assistant and/or Bixby on the Samsung Accused Products is different from described herein. Rather, public information indicates that Bixby “essentially works the same way” as the Google Assistant.</p> <p>How Bixby works</p>
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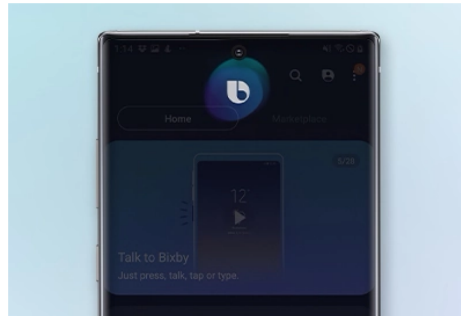
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available at <https://techwiser.com/bixby-vs-google-assistant-comparison>.

See claim 1[preamble].

Further, the Samsung Accused Products allow one to control smart home devices remotely with Google Assistant.

9[preamble]. "9. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:"

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

With a little help from Google.

Ask Google to control smart devices in your home. No
matter where you are, get things done – whenever
you want.

See, e.g., <https://assistant.google.com/smart-home/>.

9[preamble]. "9. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:"

Discover smart home devices.

Find smart home devices from thousands of brands. With Google, devices can work together to save time, lower energy bills, and help keep you safer.

Lighting and Plugs

Climate and Energy

Security and Awareness

Entertainment

Appliances and More

See, e.g., <https://assistant.google.com/smart-home/>.

Explore smart lighting and plugs.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

9[preamble]. "9. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:"

Explore smart climate and energy devices.

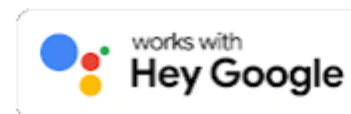
Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/climate-energy/>.

Explore smart entertainment devices.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/entertainment/>.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet the preamble. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in the preamble or

9[preamble]. "9. A system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone, said system comprising:"

	remainder of the claim that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet the preamble under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the preamble is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the preamble.
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9[a]. “a computer, said computer operatively connected to the internet and to at least one phone;”

<p>9[a]. a computer, said computer operatively connected to the internet and to at least one phone;</p>	<p>Samsung is infringing, and has infringed, element 9[a] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having a computer, said computer operatively connected to the internet and to at least one phone.</p> <p>The Samsung Accused Products include a computer, said computer operatively connected to the internet and to at least one phone.</p> <p><i>See</i> claim elements 1[a] and 1[b].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[b]. “at least one speaker-independent speech recognition engine, said speaker-independent speech recognition engine operatively connected to said computer;”

9[b]. at least one speaker-independent speech recognition engine, said speaker-independent speech recognition engine operatively connected to said computer;

Samsung is infringing, and has infringed, element 9[b] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one speaker-independent speech recognition engine, said speaker-independent speech recognition engine operatively connected to said computer.

The Samsung Accused Products include at least one speaker-independent speech recognition engine, said speaker-independent speech recognition engine operatively connected to said computer.

See claim element 1[a].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

9[c]. "at least one speech synthesis engine, said speech synthesis engine operatively connected to said computer;"

<p>9[c]. at least one speech synthesis engine, said speech synthesis engine operatively connected to said computer;</p>	<p>Samsung is infringing, and has infringed, element 9[c] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one speech synthesis engine, said speech synthesis engine operatively connected to said computer.</p> <p>The Samsung Accused Products include at least one speech synthesis engine, said speech synthesis engine operatively connected to said computer.</p> <p><i>See</i> claim element 1[a].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[d]. “a database, said database operatively connected to said computer;”

9[d]. a database, said database operatively connected to said computer;

Samsung is infringing, and has infringed, element 9[d] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having a database, said database operatively connected to said computer.

The Samsung Accused Products include a database, said database operatively connected to said computer.

See claim element 1[c].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

9[e]. “at least one instruction set stored in said database, said instruction set comprising:”

9[e]. at least one instruction set stored in said database, said instruction set comprising:

Samsung is infringing, and has infringed, element 9[e] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one instruction set stored in said database.

The Samsung Accused Products include at least one instruction set stored in said database.

See claim element 1[c].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

9[f]. “at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and”

<p>9[f]. at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and</p>	<p>Samsung is infringing, and has infringed, element 9[f] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.</p> <p>The Samsung Accused Products include at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.</p> <p><i>See</i> claim elements 1[d].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[g]. "said at least one pre-selected function;"

<p>9[g]. said at least one pre-selected function;</p>	<p>Samsung is infringing, and has infringed, element 9[g] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one internet address, said at least one internet address identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.</p> <p>The Samsung Accused Products include said at least one pre-selected function.</p> <p><i>See</i> claim element 1[e].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[h]. “at least one recognition grammar stored in said database, each said recognition grammar corresponding to each said instruction set and corresponding to a speech command;”

<p>9[h]. at least one recognition grammar stored in said database, each said recognition grammar corresponding to each said instruction set and corresponding to a speech command;</p>	<p>Samsung is infringing, and has infringed, element 9[h] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having at least one recognition grammar stored in said database, each said recognition grammar corresponding to each said instruction set and corresponding to a speech command.</p> <p>The Samsung Accused Products include at least one recognition grammar stored in said database, each said recognition grammar corresponding to each said instruction set and corresponding to a speech command.</p> <p><i>See claim element 1[g].</i></p> <p>On information and belief the recognition grammars are stored in a database.</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[i]. "said speaker-independent speech recognition engine configured to receive from users via said phone a speech command and to select the corresponding recognition grammar upon receiving said speech command;"

<p>9[i]. said speaker-independent speech recognition engine configured to receive from users via said phone a speech command and to select the corresponding recognition grammar upon receiving said speech command;</p>	<p>Samsung is infringing, and has infringed, element 9[i] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having said speaker-independent speech recognition engine configured to receive from users via said phone a speech command and to select the corresponding recognition grammar upon receiving said speech command.</p> <p>The Samsung Accused Products include said speaker-independent speech recognition engine configured to receive from users via said phone a speech command and to select the corresponding recognition grammar upon receiving said speech command</p> <p><i>See</i> claim elements 1[b], 1[h], and 1[i].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[j]. "said computer configured to retrieve said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition device;"

9[j]. said computer configured to retrieve said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition device;

Samsung is infringing, and has infringed, element 9[j] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having said computer configured to retrieve said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition device.

The Samsung Accused Products include said computer configured to retrieve said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition device.

See claim element 1[j].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

9[k]. "said computer further configured to access said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and"

<p>9[k]. said computer further configured to access said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function; and</p>	<p>Samsung is infringing, and has infringed, element 9[k] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having said computer further configured to access said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.</p> <p>The Samsung Accused Products include said computer further configured to access said at least one remote system identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.</p> <p><i>See</i> claim element 1[k].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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9[1]. "said at least one remote system configured to execute said at least one pre-selected function."

<p>9[1]. said at least one remote system configured to execute said at least one pre-selected function.</p>	<p>Samsung is infringing, and has infringed, element 9[1] by making, using selling, offering to sell, or importing a system for controlling at least one remote system operatively connected to the internet by uttering speech commands into a phone having said at least one remote system configured to execute said at least one pre-selected function.</p> <p>The Samsung Accused Products include said at least one remote system configured to execute said at least one pre-selected function.</p> <p><i>See</i> claim element 1[1].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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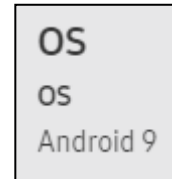
"10. The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone."

10. The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone.

Samsung is infringing, and has infringed, claim 10 by making, using selling, offering to sell, or importing the system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone.

The Samsung Accused Products include the system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone.

For example, the Galaxy S10 comes with Google Assistant and/or Bixby preinstalled. On information and belief, each Samsung Accused Products comes with Google Assistant and/or Bixby preinstalled.



See, e.g., <https://www.samsung.com/us/mobile/phones/galaxy-s/galaxy-s10-128gb-unlocked-sm-g973uzbaxaa/>

What you need

To use the Google Assistant, you'll need a device with:

- Android 5.0+ with at least 1.0GB of memory or
- Android 6.0+ with at least 1.5GB of memory
- Google app 6.13 or higher
- Google Play services
- 720p or higher screen resolution
- Device's language set to a language listed above

See, e.g., <https://support.google.com/pixelphone/answer/7172657?hl=en>

"10. The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone."



Meet Bixby

Bixby learns what you like to do and works with your favorite apps and services to help you get more done. See **Bixby** on page 30.


See, e.g., Samsung Galaxy S10 User Manual at 1, available at

http://downloadcenter.samsung.com/content/UM/201909/20190914004452936/GEN_SM-G970U1_SM-G973U1_SM-G975U1_EN_UM_P_9.0_070219_FINAL_AC.pdf

Bixby

Bixby is a virtual assistant that learns, evolves, and adapts to you. It learns your routines, helps you set up reminders based on time and location, and is built in to your favorite apps. Visit samsung.com/us/support/owners/app/Bixby for more information.



TIP You can customize how the Bixby key functions. From Settings, tap  **Advanced features > Bixby key**.

The Bixby Home page displays customized content based on your interactions. Bixby learns from your usage patterns and will suggest content you may like.

- From a Home screen, swipe right or press the **Bixby** key.

Bixby Voice

Bixby Voice allows you to use voice commands for opening apps, changing settings, entering text, and more.

1. Press and hold the **Bixby** key.
2. Say a command.
3. Release the **Bixby** key when you are finished speaking.

See, e.g., *id.* at 30.

For example, the Google Assistant is pre-installed on eligible Android phones and can be installed on others.

"10. The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone."

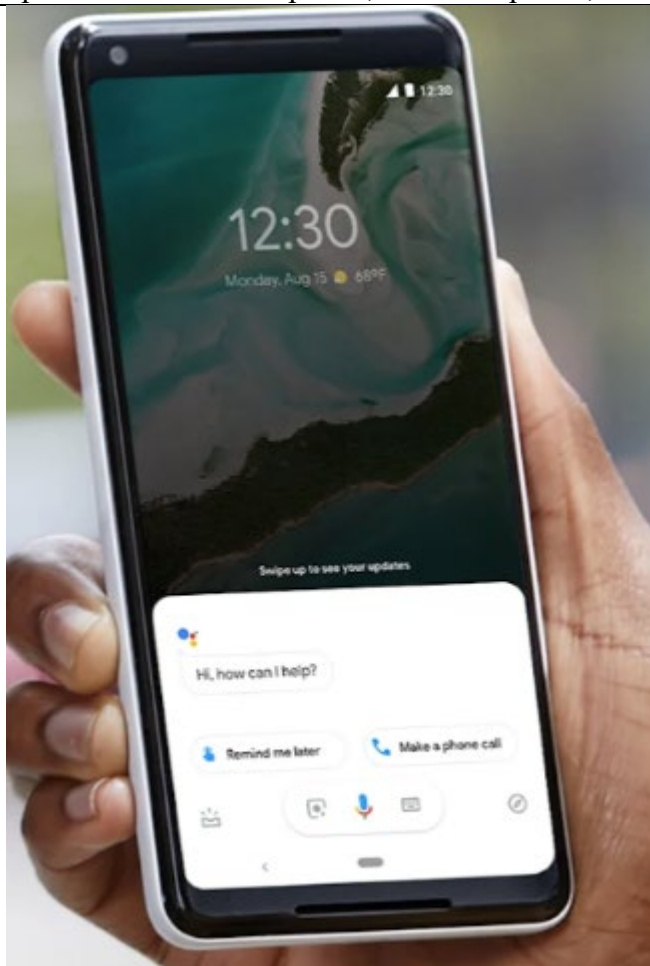
Get Google Assistant on your phone

To get started, [touch and hold](#) the home button on eligible Android phones¹ or download the [Google Assistant app](#) on the App Store.

[Shop Phones](#)

See, e.g., <https://assistant.google.com/platforms/phones/>.

"10. The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone."



See, e.g., <https://assistant.google.com/platforms/phones/>.

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

"11. The system of claim 9 wherein said internet is a local area network."

11. The system of claim 9 wherein said internet is a local area network.

Samsung is infringing, and has infringed, claim 11 by making, using selling, offering to sell, or importing the system of claim 9 wherein said internet is a local area network.

The Samsung Accused Products include the system of claim 9 wherein said internet is a local area network.

For example, the Samsung Accused Products can be installed on a local area network.

Security features for Google Nest Wifi and Google Wifi

Google Nest Wifi and Google Wifi devices have several built-in security measures to protect you and your online world.

Firewall

Google Nest Wifi and Google Wifi's firewall creates a barrier between your Wi-Fi network and the Internet, protecting your data from unsolicited connections or connection attempts. It's a stateful firewall, meaning it keeps track of connections (Transmission Control Protocol (TCP) streams, User Datagram Protocol (UDP) communication) traveling across it. Only data associated with a known active connection is allowed through the firewall.

Note: Settings like Universal Plug and Play (UPnP) and port forwarding allow devices to bypass the firewall and have an open connection, leaving them potentially vulnerable.

See, e.g., <https://support.google.com/wifi/answer/6309220?hl=en>.





"11. The system of claim 9 wherein said internet is a local area network."

Port forwarding or port opening

When enabled, port forwarding (IPv4) and port opening (IPv6) let traffic from the outside world (the internet) pass through the Google Nest Wifi firewall or Google Wifi firewall to a specific device on your home network.

Learn more about [when you need port forwarding or port opening](#) and NAT loopback.

Set up port forwarding or port opening

1. Open the Google Home app .
2. Tap Wi-Fi  > Settings  > Advanced Networking.
3. Tap Port management > Create new port management rules .
4. Choose the tab for the type of IP address you're forwarding, IPv4 or IPv6.
5. Select the device you want from the list and tap Next.
6. Add your internal and external ports.
 - a. For IPv4: Choose an internal port used by the device on the local network and an external port on the WAN. You can enter a single port # or a range #####-#####.
 - **Note:** When entering a port range internal and external ranges need to be the same. This is not the case for single port forwarding.
 - b. For IPv6: Enter the port range.
 - **Note:** Some devices will suggest what ports to use, while others let you choose. If you don't know which ports to forward, contact the manufacturer of the device or check their manual.
7. Choose either Transmission Control Protocol (TCP), User Datagram Protocol (UDP), or TCP and UDP. These are different protocols used to send data over the internet.
8. Tap Done.

See, e.g., <https://support.google.com/wifi/answer/6274503?hl=en>.

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

"11. The system of claim 9 wherein said internet is a local area network."

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

"12. The system of claim 9 wherein said internet is a wide area network."

12. The system of claim 9 wherein said internet is a wide area network.

Samsung is infringing, and has infringed, claim 12 by making, using selling, offering to sell, or importing the system of claim 9 wherein said internet is a wide area network.

The Samsung Accused Products include the system of claim 9 wherein said internet is a wide area network.

For example, the Samsung Accused Products can be setup on a wide area network.

WAN settings

Wide Area Network (WAN) settings let you control how Google Nest Wifi and Google Wifi connect to the internet. The type of WAN connection you have is generally determined by your [Internet Service Provider \(ISP\)](#).





In WAN settings, you can choose from one of the WAN types below and configure their respective settings:

- [DHCP](#)
- [Static IP](#)
- [PPPoE credentials](#)

WAN is the outside world's network of connected computers. You can think of WAN as the internet. Local Area Network (LAN), on the other hand, which is the collection of devices in your home, is your personal network. Your LAN devices receive all data from the WAN through your router.

How do I edit WAN settings?

Note: To edit your WAN settings, Google Nest Wifi or Google Wifi must be offline and your mobile phone must be connected to your Google Nest Wifi or Google Wifi network. Disconnect the Ethernet cable from your router or primary Wifi point and wait until the light pulses yellow (Google Nest Wifi) or pulses orange (Google Wifi). Make sure your mobile device is still connected to your Nest Wifi or Google Wifi network.

1. Open the Google Home app .
2. Tap Wi-Fi  > Settings  > Advanced Networking.
3. Tap WAN.
4. Choose DHCP, Static, or PPPoE.
5. Make any changes, then tap Save .

"12. The system of claim 9 wherein said internet is a wide area network."

See, e.g., <https://support.google.com/wifi/answer/6246630?hl=en>.

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

"13. The system of claim 9 wherein said internet is the Internet."

13. The system of claim 9 wherein said internet is the Internet.

Samsung is infringing, and has infringed, claim 13 by making, using selling, offering to sell, or importing the system of claim 9 wherein said internet is the Internet.

The Samsung Accused Products include the system of claim 9 wherein said internet is the Internet.

For example, the Samsung Accused Products can be setup on a wide area network including the Internet.

WAN settings

Wide Area Network (WAN) settings let you control how Google Nest Wifi and Google Wifi connect to the internet. The type of WAN connection you have is generally determined by your [Internet Service Provider \(ISP\)](#).





In WAN settings, you can choose from one of the WAN types below and configure their respective settings:

- [DHCP](#)
- [Static IP](#)
- [PPPoE credentials](#)

WAN is the outside world's network of connected computers. You can think of WAN as the internet. Local Area Network (LAN), on the other hand, which is the collection of devices in your home, is your personal network. Your LAN devices receive all data from the WAN through your router.

How do I edit WAN settings?

Note: To edit your WAN settings, Google Nest Wifi or Google Wifi must be offline and your mobile phone must be connected to your Google Nest Wifi or Google Wifi network. Disconnect the Ethernet cable from your router or primary Wifi point and wait until the light pulses yellow (Google Nest Wifi) or pulses orange (Google Wifi). Make sure your mobile device is still connected to your Nest Wifi or Google Wifi network.

1. Open the Google Home app .
2. Tap Wi-Fi  > Settings  > Advanced Networking.
3. Tap WAN.
4. Choose DHCP, Static, or PPPoE.
5. Make any changes, then tap Save .

"13. The system of claim 9 wherein said internet is the Internet."

See, e.g., <https://support.google.com/wifi/answer/6246630?hl=en>.

Do I need Wi-Fi or mobile data to use Bixby?

Yes, to use Bixby, you must be connected to a mobile data or Wi-Fi network.

See, e.g., <https://www.samsung.com/ca/support/mobile-devices/questions-about-bixby/>

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

"14. The system of claim 9 wherein said at least one remote system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system."

<p>14. The system of claim 9 wherein said at least one remote system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.</p>	<p>Samsung is infringing, and has infringed, claim 14 by making, using selling, offering to sell, or importing the system of claim 9 wherein said at least one remote system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.</p> <p>The Samsung Accused Products include the system of claim 9 wherein said at least one remote system is selected from the group consisting of: outdoor lighting, indoor lighting, security system, heating system, and air conditioning system.</p> <p><i>See claim 3.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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"15. The system of claim 14 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature."

<p>15. The system of claim 14 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p>	<p>Samsung is infringing, and has infringed, claim 15 by making, using selling, offering to sell, or importing the system of claim 14 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p> <p>The Samsung Accused Products include the system of claim 14 wherein said at least one pre-selected function is selected from the group consisting of: turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off, adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, and adjusting the air conditioning temperature.</p> <p><i>See claim 4.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[preamble]. “16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:”

<p>16[preamble]. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:</p>	<p>To the extent that the preamble is a limitation, Samsung is infringing, and has infringed, by performing a method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system comprising the steps of claim 16 listed thereafter.</p> <p>The Samsung Accused Products in conjunction with Google Assistant meet this limitation when they are used for their intended and marketed purpose by Samsung, Google and/or third parties.</p> <p>For example, the following exemplary documents provide support to demonstrate the Samsung Accused Products are systems for controlling at least one remote system by uttering speech commands into a voice enabled device.</p> <p>Andrew Nusca, <i>How voice recognition will change the world</i> (Nov. 4, 2011), available at https://www.zdnet.com/article/how-voice-recognition-will-change-the-world/.</p> <p>Gene Munster, Will Thompson, <i>Annual Digital Assistant IQ Test – Siri, Google Assistant, Alexa, Cortana</i> (Jul. 25, 2018), available at https://loupventures.com/annual-digital-assistant-iq-test-siri-google-assistant-alexa-cortana/.</p> <p>Extending the assistant (Jan. 29, 2019), available at https://developers.google.com/actions/extending-the-assistant.</p> <p>Voice Browsing (Jan. 29, 2019), available at https://www.w3.org/standards/webofdevices/voice.</p> <p>How Search organizes information (Jan. 29, 2019), available at https://www.google.com/search/howsearchworks/crawling-indexing/.</p> <p>Winston Chen, Speaking to the Web with the Web Speech API (Aug. 17, 2017), available at https://medium.com/samsung-internet-dev/speaking-to-the-web-with-the-web-speech-api-980d12d34244.</p> <p>Dieter Bohn, Here’s what we know Samsung’s Bixby assistant can do on the Galaxy S8 (Mar. 29, 2017), available at https://www.theverge.com/2017/3/29/15097744/samsung-bixby-galaxy-s8-assistant-vs-siri-alexa-android.</p> <p>On information and belief, there is no evidence to indicate that the relevant operation of Google Assistant and/or Bixby on the Samsung Accused Products is different from described herein. Rather, public information indicates that Bixby “essentially works the same way” as the Google Assistant.</p> <p>How Bixby works</p>
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16[preamble]. "16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:"

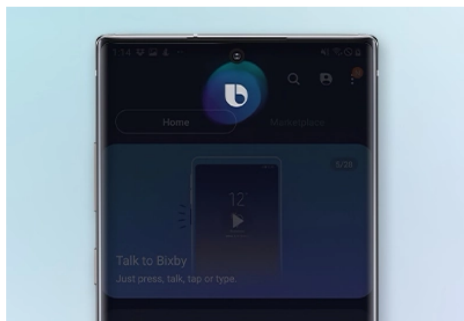
Bixby should also be able to understand natural language: this means that you don't need to use set phrases, but you can give incomplete information and Bixby can interpret and take action. Natural language recognition has been key to the rise of Alexa, for example, and is now a key element of modern AI.

The service essentially works in the same way as other AI solutions like Google Assistant or Amazon Alexa in that it listens to your voice, interprets the information, and returns the resulting action.

available at <https://www.pocket-lint.com/phones/news/samsung/140128-what-is-bixby-samsungs-assistant-explained-and-how-to-use-it>.

Change the AI assistant on your Galaxy phone

Last Update date : Oct 03, 2020



Bixby and Google Assistant are both handy AI programs that you can use on your phone, but you're not limited to those two - you can even set Samsung Internet as a phone assistant. Each assistant is awesome in its own way, but Bixby is made specifically for Galaxy phones and has its own special features. However, you can change the default assistant on your phone if you'd like.

available at <https://www.samsung.com/ca/support/mobile-devices/galaxy-phone-change-the-ai-assistant/>

16[preamble]. “16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:”

What to know about Bixby

While Bixby is similar to Google Assistant (which is also available on Samsung devices), Bixby is found exclusively on Samsung devices — it's unavailable on any other Android brand. Samsung has included it on every new Samsung device, starting with the Galaxy S8 in 2017. In addition to phones and tablets, it's built into the Samsung Galaxy Watch and is the voice assistant in the Samsung Galaxy Home, a smart speaker that Samsung announced in 2018 but has still not been released.

available at <https://www.businessinsider.com/bixby>.

Bixby is an [artificial intelligence](#) (AI) system developed by Samsung Electronics to make [device](#) interaction easier and to avoid complexity of fully featured devices. Bixby is Samsung's very own virtual assistant and the electronics giant's new effort to offer an intelligent agent to compete with Google Assistant, Apple's Siri, and Amazon's Alexa. Like other voice-based virtual assistants out there, Bixby uses neural nets and [deep learning](#) to interpret what it should do based on what a person says or asks. It uses natural language processing to understand how we talk and what we mean. It basically means anyone with a Samsung smartphone or a Samsung TV will be able to use Bixby for a [wide](#) variety of tasks, queries, and capabilities, just like Google Assistant. Bixby is a major overhaul of the S Voice, the bundled voice command application that comes built-in with the Samsung Galaxy S5 and other devices.

– While both Google Assistant and Bixby have similar smart assistant features, Google Assistant is uniquely integrated with the Google Home ecosystem and is available for Android and iOS devices (limited functionality on iOS), whereas Bixby is specific to Samsung devices and apps. Bixby is tied to the Samsung's SmartThings hub and has

16[preamble]. “16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:”

While both Google Assistant and Bixby are pretty much the same, when it comes to basic functionalities like executing voice commands to perform a wide range of tasks, Google Assistant is tied to the Google Home ecosystem, whereas Bixby is limited to the Samsung universe. Google Assistant also uses other services from the Alphabet/Google Company, as available at <http://www.differencebetween.net/technology/difference-between-google-assistant-and-bixby/>.

If you are using a Samsung device for the first time, you might be surprised to learn that Samsung has its own voice assistant similar to Apple's Siri, Amazon's Alexa, and [Google Assistant](#). It's called Bixby and is built into many Samsung devices. It works like any of those other voice assistants, so you can use it to answer questions, perform common commands, and automate tasks that you frequently perform with your phone.
available at <https://www.businessinsider.com/bixby>.

First of all, both Google Assistant and Bixby supports voice and keyboard input to ask queries and questions. With Google Assistant, you can send a message, open an app, check weather, and even send a WhatsApp message.
available at <https://techwiser.com/bixby-vs-google-assistant-comparison>.

See claim 1[preamble].

Further, the Samsung Accused Products allow one to control smart home devices remotely with Google Assistant.

16[preamble]. "16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:"

Control smart home devices with Google Assistant

You can control smart home devices including lights, switches, outlets, and thermostats using your Google Assistant.

Use your Google Assistant

Important: The languages you can use depend on the device. [Learn which languages work on your device.](#)

For example, you can say:

- "Hey Google, set the heat to 70."
- "Hey Google, turn on lights in the kitchen."

See, e.g., <https://support.google.com/assistant/answer/7314909?hl=en>.

With a little help from Google.

Ask Google to control smart devices in your home. No
matter where you are, get things done – whenever
you want.

See, e.g., <https://assistant.google.com/smart-home/>.

16[preamble]. “16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:”

Discover smart home devices.

Find smart home devices from thousands of brands. With Google, devices can work together to save time, lower energy bills, and help keep you safer.

Lighting and Plugs

Climate and Energy

Security and Awareness

Entertainment

Appliances and More

See, e.g., <https://assistant.google.com/smart-home/>.

Explore smart lighting and plugs.

Look for the Works with Hey Google badge in stores and online.

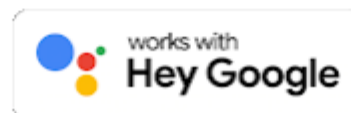


See, e.g., <https://assistant.google.com/smart-home/devices/lighting-plugs/>.

16[preamble]. "16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:"

Explore smart climate and energy devices.

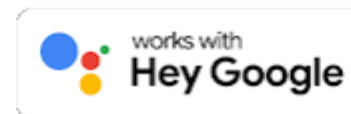
Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/climate-energy/>.

Explore smart entertainment devices.

Look for the Works with Hey Google badge in stores and online.



See, e.g., <https://assistant.google.com/smart-home/devices/entertainment/>.

See claim element 1[preamble] and claim 3.

16[preamble]. "16. A method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system, said method comprising the steps of:"

	At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet the preamble. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in the preamble or remainder of the claim that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet the preamble under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the preamble is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the preamble.
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16[a]. “providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;”

<p>16[a]. providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;</p>	<p>Samsung is infringing, and has infringed, element 16[a] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine.</p> <p>The Samsung Accused Products include/practice providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine.</p> <p><i>See claim element 1[a].</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[b]. “providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;”

<p>16[b]. providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;</p>	<p>Samsung is infringing, and has infringed, element 16[b] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users.</p> <p>The Samsung Accused Products include/practice providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users.</p> <p><i>See</i> claim element 1[b].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[c]. “providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:”

16[c]. providing at least one instruction set stored in a database operatively connected to said computer, said instruction set comprising:

Samsung is infringing, and has infringed, element 16[c] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of providing at least one instruction set stored in a database operatively connected to said computer.

The Samsung Accused Products include/practice providing at least one instruction set stored in a database operatively connected to said computer.

See claim element 1[c].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

16[d]. “at least one internet address, said at least one internet address-identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and”

<p>16[d]. at least one internet address, said at least one internet address-identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function; and</p>	<p>Samsung is infringing, and has infringed, element 16[d] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of at least one internet address, said at least one internet address-identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.</p> <p>The Samsung Accused Products include at least one internet address, said at least one internet address-identifying the location of said at least one remote system, said at least one remote system configured to execute at least one pre-selected function.</p> <p><i>See claim element 1[d].</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[e]. “said at least one pre-selected function, said pre-selected function comprising turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, or adjusting the air conditioning temperature;”

<p>16[e]. said at least one pre-selected function, said pre-selected function comprising turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, or adjusting the air conditioning temperature;</p>	<p>Samsung is infringing, and has infringed, element 16[e] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said at least one pre-selected function, said pre-selected function comprising turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, or adjusting the air conditioning temperature.</p> <p>The Samsung Accused Products include said at least one pre-selected function, said pre-selected function comprising turning the outdoor lighting on, turning the outdoor lighting off, dimming the outdoor lighting, turning the indoor lighting on, turning the indoor lighting off, dimming the indoor lighting, arming the security system, disarming the security system, turning the heating system on, turning the heating system off adjusting the heating system temperature, turning the air conditioning on, turning the air conditioning off, or adjusting the air conditioning temperature.</p> <p><i>See claim 4.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[f]. “providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;”

16[f]. providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set;

Samsung is infringing, and has infringed, element 16[f] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set.

The Samsung Accused Products include/practice providing a speech command to said speaker-independent speech recognition engine, said speech command corresponding to said instruction set.

See claim element 1[f].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

16[g]. "said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;"

<p>16[g]. said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set;</p>	<p>Samsung is infringing, and has infringed, element 16[g] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set.</p> <p>The Samsung Accused Products include said speaker-independent speech recognition engine assigning said speech command to a recognition grammar, said speech command and said recognition grammar corresponding to said instruction set.</p> <p><i>See claim element 1[g].</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[h]. “transmitting said speech command to said speaker-independent speech recognition engine;”

<p>16[h]. transmitting said speech command to said speaker-independent speech recognition engine;</p>	<p>Samsung is infringing, and has infringed, element 16[h] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of transmitting said speech command to said speaker-independent speech recognition engine.</p> <p>The Samsung Accused Products include/practice transmitting said speech command to said speaker-independent speech recognition engine.</p> <p><i>See</i> claim element 1[h].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[i]. "said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;"

<p>16[i]. said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command;</p>	<p>Samsung is infringing, and has infringed, element 16[i] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command.</p> <p>The Samsung Accused Products include said speaker-independent speech recognition engine receiving said speech command and selecting the corresponding recognition grammar upon receiving said speech command.</p> <p><i>See</i> claim element 1[i].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[j]. "said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine;"

16[j]. said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine;

Samsung is infringing, and has infringed, element 16[j] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine.

The Samsung Accused Products include said computer retrieving said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition engine.

See claim element 1[j].

At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.

16[k]. “said computer accessing said at least one remote system-identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function;”

<p>16[k]. said computer accessing said at least one remote system-identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function;</p>	<p>Samsung is infringing, and has infringed, element 16[k] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said computer accessing said at least one remote system-identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.</p> <p>The Samsung Accused Products include said computer accessing said at least one remote system-identified by said instruction set to prompt said at least one remote system to execute said at least one pre-selected function.</p> <p><i>See</i> claim element 1[k].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[1]. "said at least one remote system executing said at least one pre-selected function; and"

<p>16[1]. said at least one remote system executing said at least one pre-selected function; and</p>	<p>Samsung is infringing, and has infringed, element 16[1] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said at least one remote system executing said at least one pre-selected function.</p> <p>The Samsung Accused Products include said at least one remote system executing said at least one pre-selected function.</p> <p><i>See</i> claim element 1[1].</p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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16[m]. "said computer periodically polling said at least one remote system to determine whether said at least one remote system is operational or out of service."

16[m]. said computer periodically polling said at least one remote system to determine whether said at least one remote system is operational or out of service.	<p>Samsung is infringing, and has infringed, element 16[m] by performing method for controlling at least one remote system by uttering speech commands into a voice enabled device, said at least one remote system comprising an outdoor lighting system, an indoor lighting system, a security system, a heating system, or an air conditioning system that includes the step of said computer periodically polling said at least one remote system to determine whether said at least one remote system is operational or out of service.</p> <p>The Samsung Accused Products include said computer periodically polling said at least one remote system to determine whether said at least one remote system is operational or out of service.</p> <p><i>See claim 8.</i></p> <p>At the present time, prior to discovery commencing, Parus contends that the Samsung Accused Products literally meet this claim limitation. However, if discovery reveals that the Samsung Accused Products do not operate in the manner described herein, or if the Court provides a construction for any term contained in this limitation that is different than the construction proposed by Parus, then Parus reserves its right to contend that the Samsung Accused Products meet this claim limitation under the doctrine of equivalents, i.e., Parus reserves the right to contend that any difference between the Samsung Accused Products and the claim limitation is insubstantial and/or that the Samsung Accused Products perform substantially the same function in substantially the same way to obtain the same result as the claim limitation.</p>
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